# YOUR COMPUTER

July 1987 £1.20

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## BUILD YOUR OWN SPACE STATION

## ATARI ST MUSIC SYSTEMS

## PC POP-UP PROGRAMMING

## WIN BUREAUCRACY BY INFOCOM

## ADVENTURE PROGRAMMING SECRETS

# SCREEN TEST

## CINEMAWARE STARS ON AMIGA AND ST



## SOFTWARE REVIEWS: SPECTRUM, AMSTRAD, C64, BBC

# The Atari 520 ST gives you the power to defeat deadly enemies, slaughter monsters and outwit cruel captors.



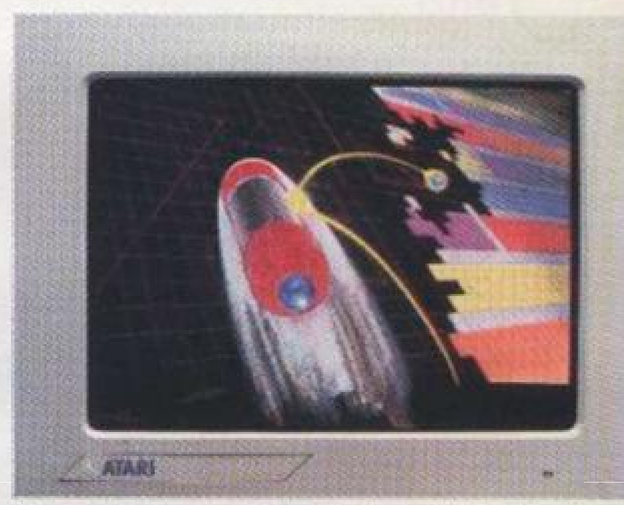

**Gauntlet – U.S. Gold.** Enter a world of monsters, mazes, mystery and combat in the ultimate role-playing fantasy game.




**Tai Pan – Ocean.** Voyage to 19th Century Hong Kong for action and excitement with pirates, smuggling and mutiny.




**Metrocross – U.S. Gold.*** It takes lightning reflexes to get past the potholes, obstacles and forbidden zones to reach the other side. And that's just the beginning!




**Arkanoid – Imagine.*** The latest smash-hit coin-op game! Are your reactions quick enough to handle 33 different play screens?

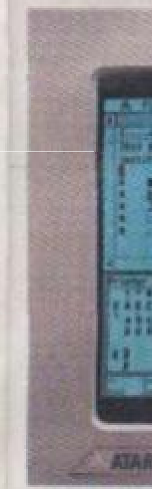



**Star Raiders – Atari.** Star Raiders are the only force strong enough to hold off the Zycroids. Your task is to command the Starcruiser – are you up to it?




**Flight Simulator II – Sublogic.** Take the controls of a Cessna 182 or Learjet 25G. With high speed 3D graphics for take-offs, landings and acrobatics, it's just like the real thing!

*Screensh



1st Word Plus
U.K. spellings
for full control



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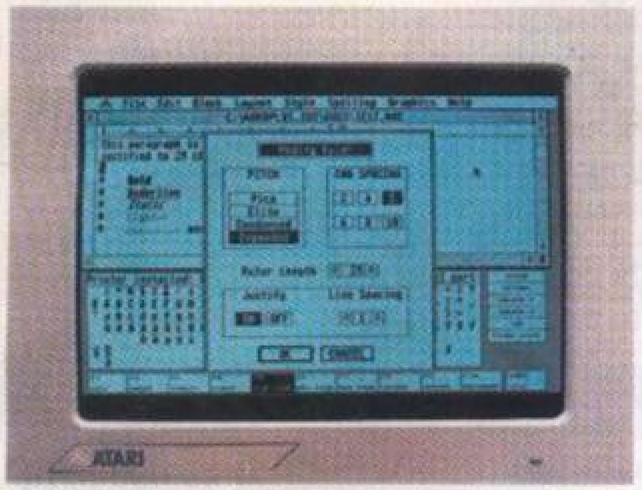
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for take-offs,

*Screensh

# But it's not all fun and games.



**1st Word Plus – G.S.T.** Professional word processor featuring U.K. spellings and integration of graphics including 1st Mail for full control of form letters etc.



**Superbase Personal – Precision Software.** All the features of GEM combined with full relational database power. Easy to set up, flexible, plus unique picture index facility.




**Fleet Street Publisher – Mirrorsoft.** The complete desk-top publishing package. Gives you page make-up combining text and graphics for sophisticated, professional looking documents.



**VIP GEM – Silica Distribution.** VIP Professional is an integrated spreadsheet, database, and graphics package. GEM environment plus Lotus 1-2-3 compatibility.

Mixing business with pleasure is no problem with an Atari 520 ST. Not when you've got over 1,000 software titles to choose from.

You'll find all the latest games and a huge range of business titles from the top business software houses. And the range is growing all the time.

You won't be short of power, either. The Atari 520 ST is twice as powerful as most business micros.

So you'll be able to create spectacular colour graphics. Even animate them to make your own films.

If you're musically minded, you can compose and play a full symphony.

Or, for those who'd rather write programs than music, the 520 ST supports over thirty programming languages.

In fact, whatever you're looking for in a computer, you'll find it in the Atari 520 ST.



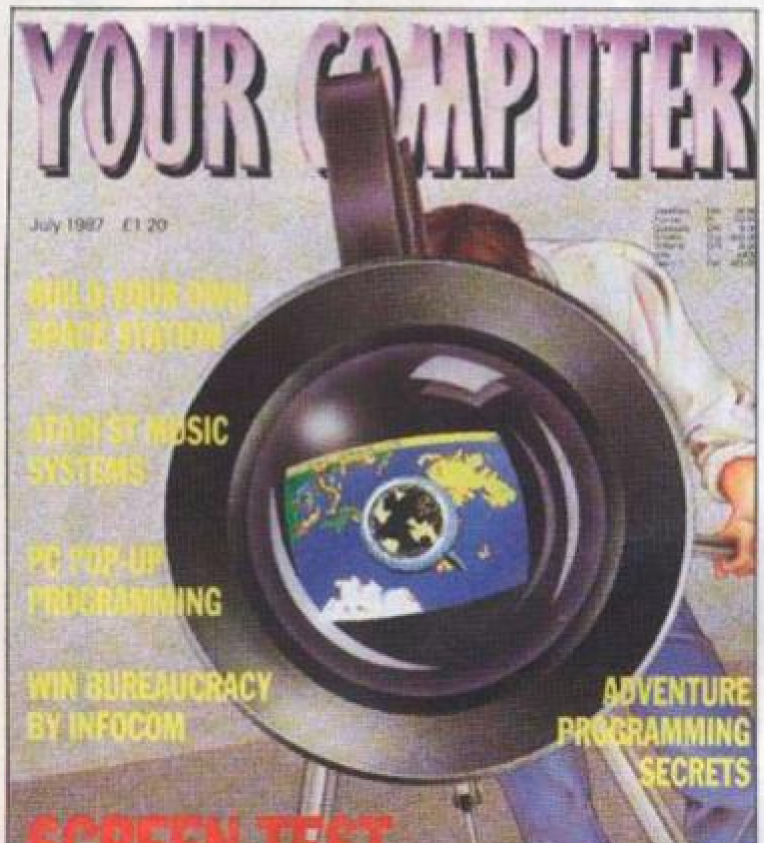
**ATARI 520 ST**

**WORKS HARD · PLAYS HARD**

iginal Arcade game. If you require any further information concerning software featured please write to: PO Box 555, Atari House, Railway Terrace, Slough, Berks SL2 5BZ

# contents

JULY 1987

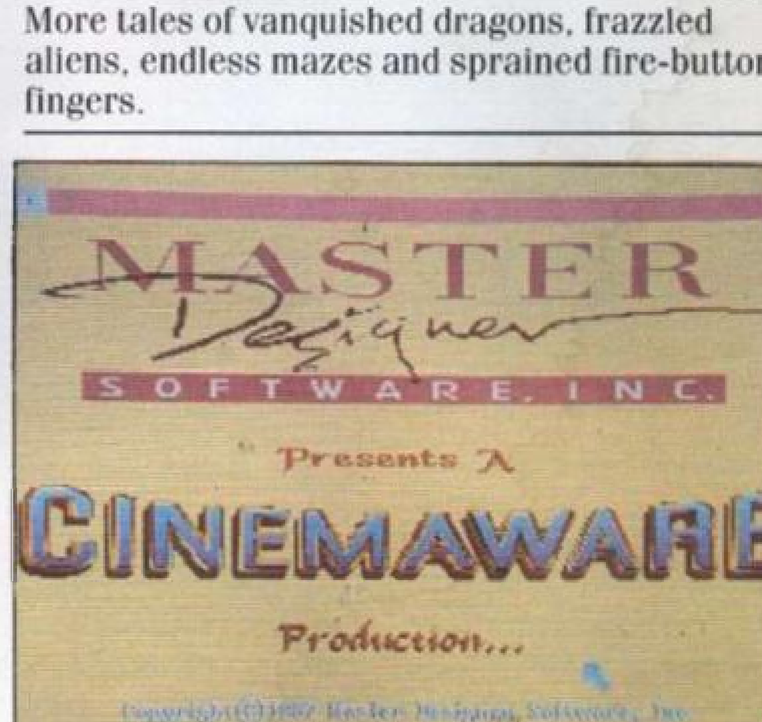



## COVER FEATURE



## REVIEWS







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Back issues of the magazine from January 1986 onwards are available for £2.00 (U.K.), £3 (Overseas) from the Back Issues Department, Greencoat House, Francis Street, London SW1P 1DG.

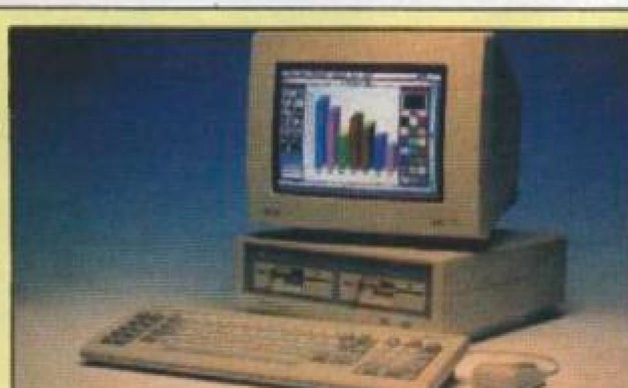
# REGULARS



# FEATURES



**NEXT MONTH**
**The August issue of *Your Computer* features a three-way hardware test comparing the Amstrad PC, the Atari ST and the Commodore Amiga. Also appearing will be a new *Home Office* section covering the more serious applications of current personal computers. On sale Thursday 23rd July.**



# COMMENT

It was perhaps inevitable that a computer bulletin board would become the latest medium for "adult" topics. Our coverage of PBBS Adult in this month's Line Noise column will no doubt bring bulletin boards under the kind of scrutiny recently brought to bear on the video and television industries.

Observant readers will notice that we have chosen not to publish the telephone number of PBBS Adult. This should not be taken as an indication of hostility towards PBBS Adult or its users, but rather as an expression of concern that the operators of the board may not be taking their responsibilities as publishers sufficiently seriously.


FOCUS MAGAZINES

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**Sub Editor**
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# Wild Bill steams into the UK market

Microprose has launched a UK division with all the determination and cunning strategy required to play its simulations. A press launch at the US Embassy was well-designed to excite hacks, permitting them to indulge in paranoid fantasies about being security threats as they were frisked at the door.

The company's sales pitch is based on the authenticity of its games and so the news that a Microprose game, *Silent Service*, had been placed on restricted sale in Germany – that is, classified as a kind of video nasty – had obvious public relations potential. Colourful president 'Wild' Bill Stealey simulated outrage that his all-American products should be treated that way while revealing that the Microprose autumn offering will be a *Red Dawn*-style simulation, *Red Storm Rising*.

With Wild Bill's fingers on the joystick, those lovable American values will certainly be safe for some time.

# Apple sets up division to handle software

Apple Computer Inc has announced its first quarterly dividend and an additional share issue including a two-for-one split to existing shareholders.

In the midst of this exuberance the company has also launched a software subsidiary to market applications software for the Mac and Apple II.

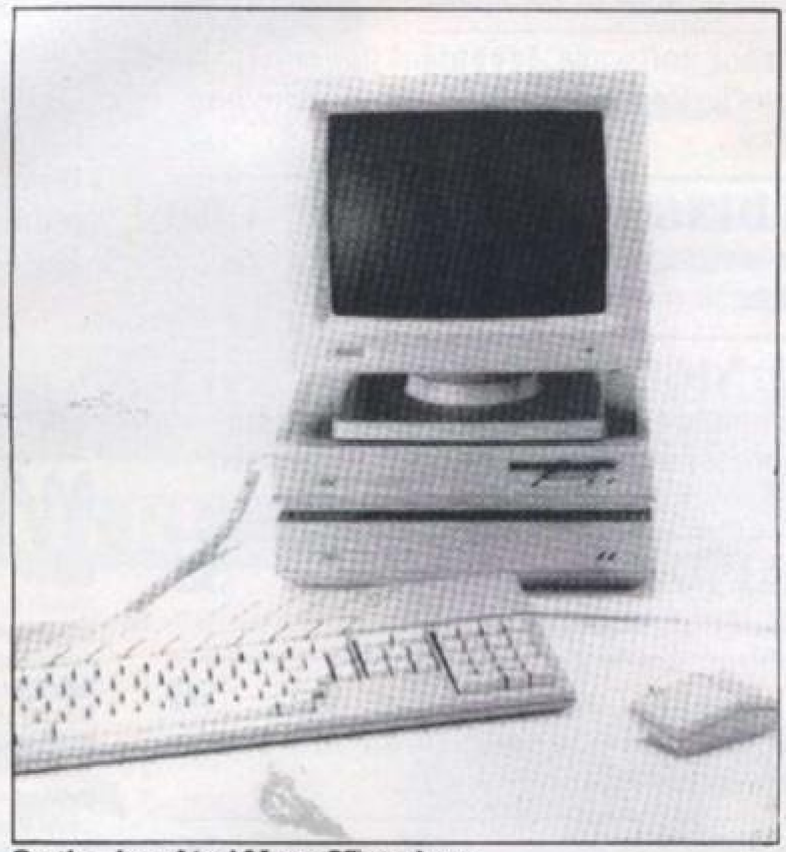
After a set-up period, Apple plans to float off the as yet unnamed division and retain only a minority ownership position, as it is described. The idea is that a de-emphasis of the Apple identity will increase the involvement of independent software developers and enable them to call on the marketing and distribution resources of Apple without sacrificing their independence. It will also improve the quality and availability of software for Apple machines.

As the company's executive staff appears to be entirely derived from the current corporate ranks of its parent, the precise nature of its planned independence seems a little vague and the growth of the seedling will have to be watched with interest.

# Atari's winning streak

Atari Corporation followed last month's pricing news with the announcement of an impressive increase in sales in the first quarter of 1987. Sales totalled $65,133,000 in the first three months, an increase of 45 per cent on the same period in 1986. Share earnings increased four-fold.

Atari sales offices are opening in Spain and Sweden to increase the European presence and a renewed attack on the US market is planned, based on the new products arriving this summer.



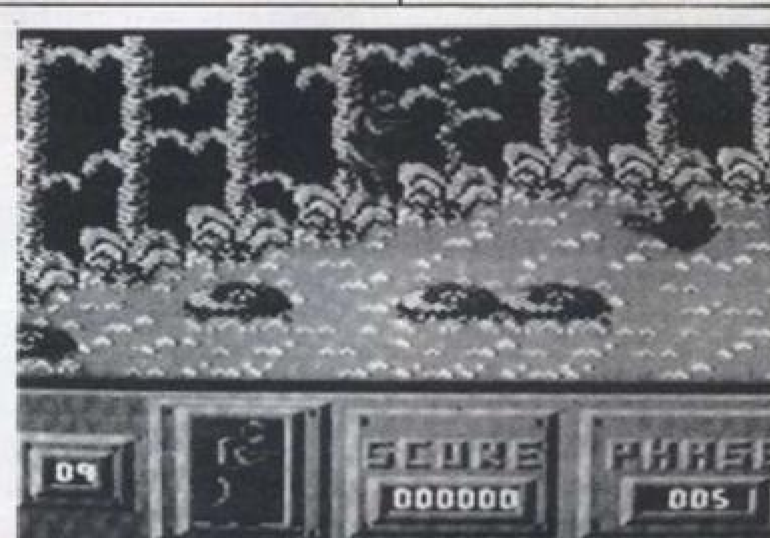
**On the rise: Atari Mega ST package**

# Penetrate enemy

Imagine Software has linked up with Madrid based software house Dinamic to market the Spanish company's games worldwide. The first result of this partnership is Army Moves, in which the player has to cross a defended base, steal a helicopter and penetrate an enemy base camp.

The game has been rewritten to suit the usual Commodore, Spectrum and CPC machines and with the obvious exception of the Spectrum version is available on disk or cassette.

Several more games are due to be released over the course of 1987, although not all the titles have been finalised. Those planned include the adventures of intergalactic playboy Freddy Hardest and 'another war game' After the War, and Basket Master simulation.




**Army Moves: new game in tie-up with Spanish house**

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- ★ Label sets and envelopes included
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We only have a limited stock, and so it's first come, first served. A saving not to be missed!

| | Price per order qty. (SSDD 48 or 96tpi please specify) | Approx price per disk ex-VAT (infor only) |
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| 200 disks | £ 82.99 | 36 |
| 500 disks | £199.99 | 35 |
| 1000 disks | £389.99 | 34 |

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*Don't settle for less-get the best*

| Quantity | SS (includes plastic library box) | DS |
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| 20 disks | 28.99 | 33.49 |
| 50 disks | 69.99 | 79.99 |
| 100 disks | 129.99 | 149.99 |
| 200 disks | 249.99 | 289.99 |
| 250 disks | 299.99 | 359.99 |
| 500 disks | 589.99 | 699.99 |

Made in Japan by a leading manufacturer, our single and double sided disks are fully tested and certified to 135tpi.

Don't forget – the price includes VAT, delivery and library boxes!

N.B. If you don't need boxes on quantities of 100 or more, then phone and ask for our special trader prices for BULK disks.

## Offer 2

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| Total Price (No extras!) | |
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| £ 74.99 | 200 disks |
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*Don't forget – No extras*

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| £129.99 | 200 disks |
| £149.99 | 250 disks |
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ALL PRICES INCLUDE VAT & DELIVERY TO YOUR DOOR! NO HIDDEN EXTRAS

1. DIAL-A-DISK ON 01.979 7811, and give your ACCESS or VISA number and expiry date.
2. Send your cheque etc. to Direct Disk Supplies Ltd.,
3. Official Orders, Bona-fide orders from Universities, Colleges, Schools, Charities, etc are very welcome.
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**FREEPOST, 129 High Street, Hampton Hill, Middlesex TW12 1BR**

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- ★ Below just some of the machines we cater for:
- ★ Atari ST range. 4 piece set – **£10.50**
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Also covers made to your specification for any computer or device. Write or phone for details.

**Please state make and model numbers of computer, monitor and printer and disc drives.**

**CONCEPT COVERS**

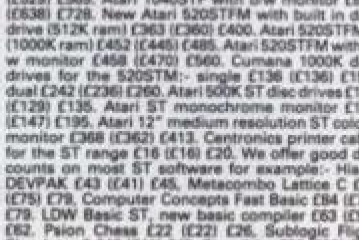
24 Wolstenbury Road, Rustington, West Sussex BN16 3LB

Telephone: 0903-782945

## ATARI COMPUTERS

All All ST computers come with mouse and software. Atari 1040STF without monitor £542 (£529) £569. Atari 1040STF with b/w monitor £637 (£638) £728. New Atari 520STFM with built in disc drive (512K ram) £363 (£360) £400. Atari 520STFM+ (1000K ram) £452 (£446) £485. Atari 520STFM with b/w monitor £458 (£470) £560. Cumana 1000K disc drives for the 520STM:- single £136 (£136) £152, dual £242 (£236) £260. Atari 500K ST disc drives £119 (£129) £135. Atari ST monochrome monitor £137 (£147) £195. Atari 12" medium resolution ST colour monitor £368 (£362) £413. Centronics printer cable for the ST range £16 (£16) £20. We offer good discounts on most ST software for example:- Hisoft DEVPAK £43 (£41) £45, Metacombo Lattice C £84 (£75) £79, Computer Concepts Fast Basic £84 (£75) £79. LDW Basic ST, new basic compiler £63 (£58) £62. Psion Chess £22 (£22) £26, Sublogic Flight Simulator 2 £43 (£41) £45, Starglider £22 (£22) £26. Atari 130 XE Computer + game £95 (£99) £120. Atari 130XE + disc drive + 1029 printer + software £313 (£315) £373. Atari cassette recorder £34 (£38) £48. Atari 1020 4 colour printer £93 (£94) £114. Atari 1029 dot matrix printer £118 (£124) £151. Atari 1050 disk drive with DOS 3 £118 (£124) £151.

## SINCLAIR PRODUCTS AND CAMBRIDGE COMPUTERS



Spectrum 128K Plus Two computer:- without joystick and software pack £148 (£150) £180, with joystick and software pack £158 (£162) £194. Spectrum Plus 3 (New disc machine) £249 (£250) £280. Blank microdrive cartridges for the QL and the Spectrum £2.50 (£3) £4. QL floppy disc interface (See Cumana disc drive section for suitable drives) £86 (£84) £94. Spectrum floppy disc interface (See Cumana section for suitable disc drives) £76 (£76) £86. Spectrum centronics printer interface and cable £46 (£42) £47. Cambridge computers Z88 £297 (£271) £296. (Sinclair are about to raise the price, so please check before ordering). Mains adaptor £15 (£17) £22. 128K ram cartridge £65 (£57) £62.

## COMMODORE COMPUTERS

Commodore Amiga A500 Computer £533 (£524) £574. Modulator £25 (£25) £35. Amiga A500 with 1080 colour monitor £848 (£839) £946. Commodore 128 computer + software + joystick £223 (£223) £265. Commodore 128D £518 (£499) £539. 1571 Disc drive £276 (£269) £285. Commodore 64C computer £164 (£164) £189. Commodore 64C computer with mouse, cassette recorder and software £239 (£242) £272. Convertor to allow the use of most ordinary mono cassette recorders with the Commodore 128 and Commodore 64 £9.78 (£9) £11. Commodore MPS1000 printer £269 (£262) £296. 1541C disk drive £194 (£192) £208.

## AMSTRAD PRODUCTS

We can supply a wide range of software for the 1512, the PCW8256 and the PCW8512 – write for a quote. New Amstrad 1512 IBM Personal Computer Clones:- 1512 computer with single disc drive and b/w monitor £499 (£499) £606, dual disk b/w £619 (£614) £621, single colour £669 (£655) £762, dual colour £771 (£745) £852, 20MB HD b/w £951 (£907) £1047, 20MB HD colour £1102 (£1038) £1178. Special Summer package offer:- if ordered with monochrome dual 1512 or colour 20MB HD 1512 or monochrome 20MB HD 1512 we will supply a DMP3000 printer + supercalc3 + wordstar 1512 for £134 (£140) £173. DMP3000 printer £190 (£193) £226. 30MB hard card for the Amstrad 1512 £477 (£475) £525. Amstrad CPC464 computers:- colour £291 (£320) £404, green £197 (£235) £316. Amstrad 6128:- colour £391 (£420) £500, green £291 (£320) £404. Amstrad PCW8256 £440 (£464) £571. Amstrad PCW8512 £554 (£577) £684. Amstrad DMP2000 printer £166 (£171) £204. Extra disc drive for Amstrad 6128 £99 (£105) £136. Amstrad DD1 Disc Drive £155 (£156) £186. Amstrad joystick £11 (£12) £16.

## CUMANA 3.5" AND 5.25" CASED DISC DRIVES WITH CABLE AND POWER SUPPLY

40/80 track switchable double sided, to suit floppy disc interfaces of the Sinclair QL, Sinclair Spectrum and BBC B. 3.5" drives:- single £134 (£134) £156, dual £224 (£219) £251. 5.25" drives:- single £172 (£169) £199, dual £310 (£306) £347.

## PRINTERS

Epson LX86:- without tractor £276 (£275) £309, with tractor £300 (£298) £342. Star NL10 £235 (£234) £270. Interfaces for NL10 £37 (£35) £37. Brother M1109 £220 (£224) £265. Shinwa CTI CPA80+ £208 (£210) £247. Cannon PW1080A £303 (£298) £338. Microperipherals MP165 £219 (£223) £265.

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# TECHNOLOGY SO ADVANCED ...



**MEMORY**
* 512Kbytes RAM (520ST-M, FM)
* 1024Kbytes RAM (1040ST-F)
* 192Kbytes ROM
* 128Kbytes external plug-in ROM option

**ARCHITECTURE**
* Motorola 68000 Central Processing Unit (CPU) with a clock speed of 8MHz
* 16-bit external data bus
* 32-bit internal data bus
* 24-bit address bus
* 8×32-bit data & address registers
* 7 levels of interrupts
* 56 instructions
* 14 addressing modes
* 5 data types
* DMA (Direct Memory Access)
* real time clock as standard

**GRAPHICS**
* full bit-mapped display
* palette of 512 colours

*Using Atari Monitors (on 520 & 1040):*
* 640×400 high resolution - monochrome
* 640×200 medium resolution - 4 colours
* 320×200 low resolution - 16 colours
* 80 column text display (40 col low res)

*Using Domestic TV (on 520):*
* 640×200 medium resolution - 4 colours
* 320×200 low resolution - 16 colours
* 40 columns × 25 line text display

**SOUND AND MUSIC**
* 3 programmable sound channels
* frequency programmable 30Hz - 125KHz
* programmable volume
* wave & dynamic envelope shaping
* programmable attack, decay, sustain, release
* Musical Instrument Digital Interface (MIDI)
* MIDI allows connection of synthesisers etc.

**MOUSE**
* high precision
* 2 button control
* free with 520ST-FM/1040ST-F
* non slip ball motion sensor
* removable ball for easy cleaning

**STANDARD SOFTWARE**
* GEM desktop + TOS operating system
* ST BASIC interpreter/language system

**INPUT/OUTPUT**
* MIDI out ........ (5 pin DIN) 31.25K baud
* MIDI in ........ (5 pin DIN) 31.25K baud
* audio out ........ 1.0V DC peak to peak, 10K ohm
* audio in ........ 1.0V DC peak to peak, 10K ohm
* RGB monitor ........ 1.0V DC, 75 ohm
* mono monitor ........ 1.0V DC, 75 ohm
* mono horizontal scan rate ........ 35.7KHz
* mono vertical scan rate ........ 71.2KHz
* sync ........ 5V DC (active low) 3.3K ohm
* modem/serial ........ RS232C, 50 to 19,200 baud
* floppy disk ........ 250 Kbits/s
* hard disk ........ 11.3 Mbits/s
* mouse ........ standard Atari connector
* joystick ........ standard Atari connector
* cartridge port ........ 128K capacity
* RF output (520ST-FM) ........ for TV use

**OPERATING SYSTEM**
* TOS with GEM environment in ROM
* hierarchical file structure with sub-directories and path names
* user interface via GEM, with self explanatory command functions
* multiple windows + icons
* window resizing, re-positioning and erasing
* drop down menus (selected by mouse)
* GEM virtual device interface

**COMMUNICATIONS**
* RS-232C serial modem port
* 8-bit parallel printer port
* MIDI port (also for networking use)
* VTS2 terminal emulation

**KEYBOARD**
* standard QWERTY typewriter format
* 95 full stroke keys
* 10 function keys
* 18 key numeric keypad + cursor keys
* variable auto-repeat & key click response
* keyboard processor reduces CPU overhead

# ... IT'S AFFORDABLE

# ONLY FROM SILICA

Finally, there's a personal computer that not only solves problems like other computers, but also solves the one problem that other computers have created. Affordability. Silica Shop are pleased to present the ST range of personal/business computers from Atari. The ST was designed utilizing the most recent breakthroughs in semiconductor technology, producing a personal computer that performs tasks with fewer parts. Which means it costs less to make. And less to buy. The latest ST computers now include built in power supplies and built in disk drives. The TOS operating system and GEM window environment are now on ROM chips which are already installed in the ST keyboard. This enables automatic instant booting when you switch on. Silica Shop are pleased to offer the complete Atari ST range. Our mail order department is situated in Sidcup and we have 4 retail outlets at Sidcup, Orpington, Lion House (Tottenham Court Rd) and Selfridges (Oxford Street). We have eight years experience of Atari products, longer than any other UK company, and are well established as the UK's No.1 Atari specialist. With a group turnover of over £5 million and in excess of 70 staff, we provide unbeatable service and support. We provide several facilities which you will find invaluable during your Atari computing life and most of these facilities are available **ONLY FROM SILICA**. We suggest that you read through what we have to offer, before you decide where to purchase your Atari ST.

## FREE STARTER KIT - Only From Silica

When you purchase any Atari ST keyboard, you will not only receive the best value for money computer on the market, but you will also receive the following from Atari Corporation as part of the package:

* *BASIC Language Disk* * *BASIC Manual* * *ST Owners Manual* * *TOS/GEM on ROM*

If you buy your ST from Silica Shop, you will also receive:

* *NEOchrome - colour graphics program* * *1st Word - Word Processor*

In addition, we at Silica would like to see you get off to a flying start with your new computer, so we have put together a special **ST STARTER KIT** worth over £100, which we are giving away **FREE OF CHARGE** with every ST computer purchased at our normal retail prices. This kit is available **ONLY FROM SILICA** and is aimed at providing users with a valuable introduction to the world of computing. We are continually upgrading the ST Starter Kit, which contains public domain and other licensed software, as well as books, magazines and accessories all relevant to ST computing. Return the coupon below for full details.

## DEDICATED SERVICING - Only From Silica

At Silica Shop, we have a dedicated service department of five full time Atari trained technical staff. This team is totally dedicated to servicing Atari computer products. Their accumulated knowledge, skill and experience makes them second to none in their field. You can be sure that any work carried out by them is of the highest standard. A standard of servicing which we believe you will find **ONLY FROM SILICA**. In addition to providing full servicing facilities for Atari ST computers (both in and out of warranty), our team is also able to offer memory and modulator upgrades to ST computers.

**1Mb RAM UPGRADE:** Our upgrade on the standard Atari 520ST-M or 520ST-FM keyboard will increase the memory from 512K to a massive 1024K. It has a full 1 year warranty and is available from Silica at an additional retail price of only £86.96 (+VAT = £100).

**TV MODULATOR UPGRADE:** Silica can upgrade the 1040ST-F to include a TV modulator so that you can then use it with your TV set. This is an internal upgrade and does not involve any untidy external boxes. A cable to connect your ST to any domestic TV is included in the price of the upgrade which is only £49 (inc VAT). The upgrade is also available for early 520ST computers at the same price.

## THE FULL STOCK RANGE - Only From Silica

We aim to keep stocks of all Atari related products and our warehouse carries a stock of £½ million. We import many software titles direct from the USA and you will find that we have new releases in advance of many of our competitors. Unlike dealers who may only stock selected titles, we have the full range. In addition, we carry a complete line of all books which have been written about the Atari ST. A range as wide as ours is something you will find is available **ONLY FROM SILICA**.

## AFTER SALES SUPPORT - Only From Silica

Rest assured that when you buy your ST from Silica Shop, you will be fully supported. Our free mailings give news of releases and developments. This will help to keep you fully up to date with what's happening in the Atari market. And in addition, our sales staff are at the end of a telephone line to service all of your Atari requirements. If you purchase an ST from Silica and would like any programming or technical advice, we have a full time technical support team to help you get the best from your computer. Because we have both the staff and the systems specifically dedicated to providing after sales service on Atari ST computers, we are confident that our users enjoy an exceptionally high level of support. This can be received **ONLY FROM SILICA**.

## FREE CATALOGUES - Only From Silica

At Silica Shop, we recognise that serious users require an in-depth information service, which is why we mail free newsletters and price lists to our ST owners. These are up to 48 pages long and are crammed with technical details as well as special offers and product descriptions. If you have already purchased an ST and would like to have your name added to our mailing list, please complete the coupon & return it to us. The information service is available **ONLY FROM SILICA**.

## FREE OVERNIGHT DELIVERY - From Silica

Most orders are processed through our computer within 24 hours of receiving them. Most hardware orders are sent by the overnight METRO courier service FREE OF CHARGE to customers within the UK. This method helps to ensure minimum delay and maximum protection.

## PRICE MATCH - Only From Silica

We hope that the combination of our low prices, FREE UK delivery service, FREE Starter Kit and FREE after sales support, will be enough to make you buy your Atari equipment from Silica Shop. If however, there is something you wish to purchase, and you find one of our competitors offering it at a lower price, then please contact our sales department, providing us with our competitor's name, address and telephone number. If our competitor has the goods in stock, we will normally match the offer (on a 'same product - same price' basis) and still provide you with our normal free delivery. We realise that we are not the only company who will match a competitor's price. However, if you come to us for a price match, you will also be entitled to our after sales service, including free newsletters and technical support. This makes our price match promise rather special, something you will receive **ONLY FROM SILICA**. We don't want you to go anywhere else for your Atari products. So shop at Silica, the UK's No1 Atari Specialist.

**SIDCUP** (& Mail Order) ........ **01-309 1111**
*1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX*

**LONDON** ........ **01-580 4839**
*Lion House (1st floor), 227 Tottenham Court Rd, London, W1*

**LONDON** ........ **01-629 1234 ext 3677**
*Selfridges (1st floor), Oxford Street, London, W1A 1AB*

# 520ST-M

The affordability of Atari computers is reflected in the price of the 520ST-M keyboard, which is a mere £259 (inc VAT). This version of the ST comes with 512K RAM, as well as a modulator and lead for direct connection to any domestic TV. The price does not include a mouse. In addition, when you buy your 520ST-M from Silica, you will also receive the FREE Silica 'ST Starter Kit'. During 1987, many software houses will be producing games software on ROM cartridges, which will plug directly into the cartridge slot on the 520ST-M keyboard, giving instant loading without the expense of purchasing a disk drive. With the enormous power of the ST, you can expect some excellent titles to be produced, making this the ultimate games machine! If your requirement is for a terminal, then the 520ST-M can fulfill this role too. Leads are available to connect the ST to a variety of monitors, and with the imminent introduction of terminal software on ROM cartridge, the ST provides a low price terminal for business use. If you wish to take advantage of the massive range of disk software available for the ST range, you will need to purchase a disk drive. Atari have two floppy disk drives available, a ½ Mbyte model £149 and a 1Mbyte model £199. Full details of these drives, as well as the Atari 20Mbyte hard disk are available on request. If required at a later date, the mouse may be purchased separately.

# £259

# 520ST-FM

The 520ST-FM with 512K RAM and free mouse, represents a further breakthrough by Atari Corporation in the world of high power, low cost personal computing. This model is the latest addition to the ST family, and is not only powerful, but compact. It is priced at only £399 (inc VAT) a level which brings it within the reach of a whole new generation of computer enthusiasts. When purchased from us, it comes with the FREE Silica 'ST Starter Kit' see paragraph on the left. To make the 520ST-FM ready for use straight away, Atari have built into the keyboard a ½ megabyte disk drive for information storage and retrieval, allowing you easy access to the massive range of disk based software which is available for the ST. This new computer comes with all the correct cables and connections you will need to plug it straight into any standard domestic television set. You do *not* therefore have to purchase an Atari monitor. If you do require a monitor however, these are available with the 520ST in the following money saving packages:

| | | |
|---|---|---|
| *520ST-FM Keyboard* | *Without Monitor* | - **£399** *(inc VAT)* |
| *520ST-FM Keyboard* | *+ High res mono monitor* | - **£499** *(inc VAT)* |
| *520ST-FM Keyboard* | *+ Low res colour monitor* | - **£599** *(inc VAT)* |
| *520ST-FM Keyboard* | *+ Med res colour monitor* | - **£699** *(inc VAT)* |

Because the 520ST-FM has its own power transformer built into the keyboard, there are no messy external adaptors to clutter up your desk space. You are left with only one mains lead, serving both the disk drive and the computer. You couldn't ask for a more stylish and compact unit.

# £399

# 1040ST-F

For the businessman and the more serious home user, Atari have their most powerful model, the 1040ST-F with 1028K RAM. This low cost powerhouse can be introduced into a business environment as a stand-alone system, or can support a mainframe computer as a terminal. The 1040ST-F not only features twice as much memory as the 520ST-FM, but also includes a more powerful built-in disk drive. The drive featured on the 1040ST-F is a one megabyte double sided model. The extra memory facility of the 1040ST-F makes it ideal for applications such as large databases or spreadsheets. Like the 520ST-FM, the 1040ST-F has a mains transformer built into the console to give a compact and stylish unit with only one mains lead. The 1040ST-F is also supplied from Silica Shop with a free software package and 'ST STARTER KIT'. In the USA, the 1040ST-F has been sold with a TV modulator like the 520ST-FM. However, for the UK market, Atari are manufacturing the 1040ST-F solely with business use in mind and it does not currently include an RF modulator, this means that you cannot use it with a domestic TV (Silica Shop do offer a modulator upgrade for only £49). The 1040ST-F keyboard costs only £599 (inc VAT) and, unless a modulator upgrade is fitted, will require an Atari or third party monitor. There are three Atari monitors available and the prices for the 1040 with these monitors are as follows:

| | | |
|---|---|---|
| *1040ST-F Keyboard* | *Without Monitor* | - **£599** *(inc VAT)* |
| *1040ST-F Keyboard* | *+ High res mono monitor* | - **£699** *(inc VAT)* |
| *1040ST-F Keyboard* | *+ Low res col monitor* | - **£799** *(inc VAT)* |
| *1040ST-F Keyboard* | *+ Med res col monitor* | - **£899** *(inc VAT)* |

The 1040ST-F comes with a mouse controller and includes 1Mbyte of RAM. It has a 1Mbyte double sided disk drive and mains transformer, both built into the keyboard to give a compact and stylish unit, with only one mains lead.

# £599

# ATARI ST

To: Silica Shop Ltd, Dept YC 0787, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

## PLEASE SEND ME FREE LITERATURE ON THE ATARI ST

Mr/Mrs/Ms: ............ Initials: ............ Surname: ............................

Address: ..................................................

..................................................

..................................................

.............................. Postcode: ..............

Do you already own a computer
If so, which one do you own? ..............................

# news

## Data and the law books

From November, any individual can demand copies of information held about them and the Data Protection Office, which has to enforce this right, is keen that everyone is registered and ready to reveal the contents of their databases to all and sundry.

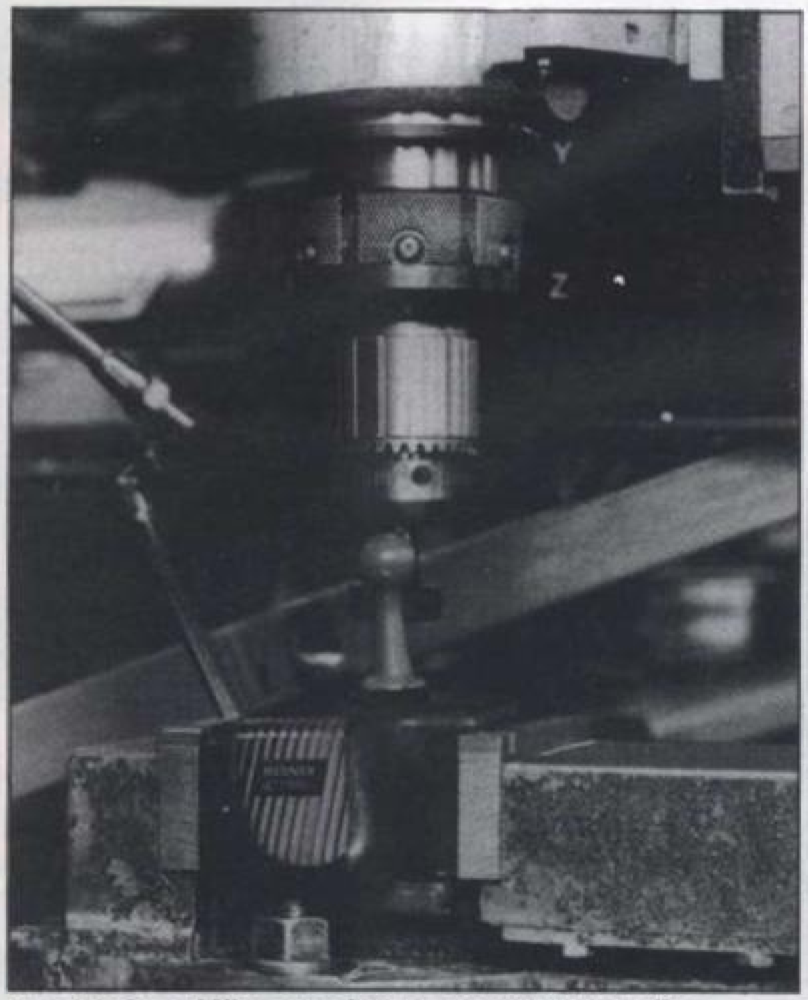
Apart from writing to *Your Computer* at least once a week on the subject, the Data Protection Office has prepared eight new booklets explaining how the law could affect you and your files, and information is available from public libraries. The Data Protection Registrar is based at Springfield House, Water Lane, Wilmslow, Cheshire SK9 5AX.

## New Ecodisc captures BBC nature data

The ambitious BBC Domesday project has reached a new stage. A new LV-ROM videodisc for the AIV system arrived in May. The Ecodisc, as it is called, provides a practical guide to ecology and is based on a simulation by Slapton Ley Nature Reserve in South Devon. Users can draft a plan for the management of the reserve and discover and apply ecological concepts in doing so.

The addition of the Domesday Display floppy will enable users to extract data and images from the system and to present them as a slide show, a great benefit for the many educational users of the system. Another floppy scheduled for autumn release will enable users to interface their own data with the maps contained in the Domesday Community disc. As if this was not enough another information disc of detailed street maps will be unleashed in 1988.

Those inspired to buy the system from scratch by this spate of new releases will have to pay the full price, as from May the system was priced at £500 more, taking it to £4,490 plus VAT.



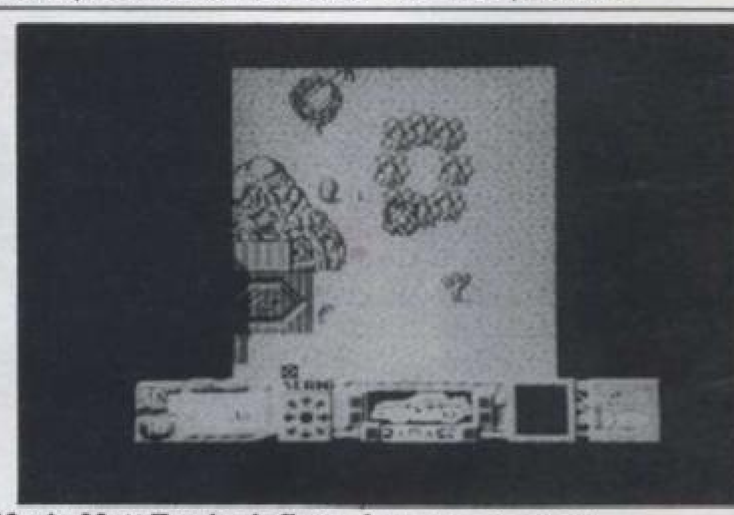
**On trial: Speed King stands up to constant waggling**

## Konix stick faces stiff waggle test

Have you ever been disappointed by the performance of your joystick? Has it ever let you down, steered you into the middle of the evil empire's fleet or tripped you up over the hurdles?

Konix has subjected its Speed King joystick to a waggle test to find just when it would wear out from a constant waggling of 450 waggles per minute. That, it claims, is a rate which would give you a creditable score in the type of games requiring constant and vigorous joystick waggling.

The joystick was attached to a machine programmed to play *Daley Thompson's Decathlon* non-stop until the joystick expired. As we went to press it was going strong after three weeks' constant pounding – but it must lose patience eventually.



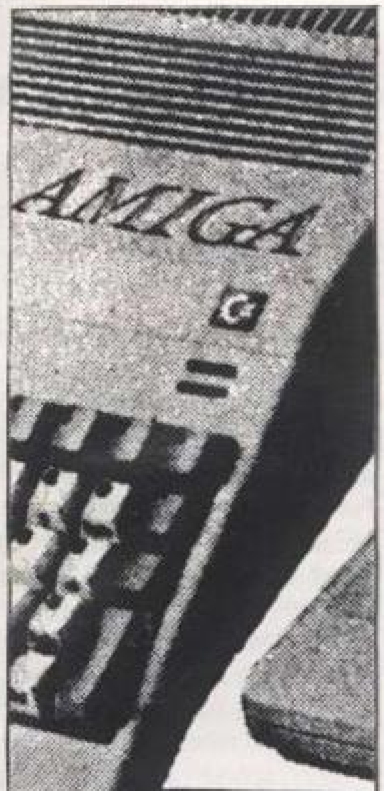
**Mask: Matt Tracker's first micro extravaganza**

## Gremlin moves into Mask mode

From the almost over-productive Gremlin Graphics people comes news of Mask 1, the adventures of Matt Trakker, agent extraordinaire. Matt's travels through space and time are made even more exciting by what Gremlin calls a life-like multi-directional scroll which translates as pretty special graphics. You will be able to see for yourself later this month when the first version is released.

Also on offer is The Final Matrix, not a new Europe single but a space adventure in which you play Nimrod, a friendly Bioptan rescuing his friends from the clutches of the hostile Cratons, and Rebounder. This features Bounder, an intelligent and agile tennis ball. He needs all these qualities to manouvre through 18 screens of scrolling platforms packed with hazards which have to be watched carefully, as uniquely for a tennis ball Bounder is inflatable and prone to sudden losses of pressure. So that means deflation is fatal. Just like life!

# Amiga 500 impact due




**Amiga 500: awaited**

Although Commodore International announced a profit for the first three months of this year it does not continue the improving trend established by the end of last year. The statement by chairman Irving Gould stressed that management was being strengthened and streamlined, though how this relates to the sudden and unexpected departure of president Tom Rattigan is not clear.

Company debt has been reduced by $110 million in the last 18 months and the June release of a more affordable version of the much-praised Amiga should help continue the process.

The Amiga 500 is poised to make a dramatic alteration in its creator's fortunes when it is unveiled officially. At the time of writing machines had yet to surface in high street chains but *Your Computer* will when that happens.

# Domark bangs drum for newest Bond star

Dominic Wheatley and Mark Strachan, Domark's joint managing directors, visited Pinewood Studios recently to hitch a ride in James Bond's Aston Martin featured in the new film, The Living Daylights, starring Timothy Dalton as the new face of 007.

The Aston Martin is fitted with skis, which emerge from the door sills, a laser in each alloy wheel – focused using a head up screen display – and a powerful jet motor hidden behind the rear number plate!

Then there are the guided missiles behind the fog lamps (where else?) and the auto-destruct mechanism that only allows you a minute to get clear!



**Drama: the new James Bond faces trouble**

Mark and Dominic managed to survive the experience and so did the car. They were all promoting "The Living Daylights" computer game in shops from mid July! Prices range from £9.95 to £25.95 on Amstrad CPC, PCW, Spectrum, Commodore and Amiga, Atari, BBC, and MSX versions.



**Wheatley and Strachan**

# System Gamma on Beeb

System Gamma is a programmable graphics package which Minerva Systems claims will allow the non-programmer to generate graphics of a sophistication unrivalled on the BBC micro.

The commands are completely definable, displaying as many charts on screen as the user might require at any one time in scatter, hist, line or pie chart format and these are also definable in every respect allowing the user to customise the scaling and screen format.

There is a statistics facility which includes line of best fit, maximum, minimum and standard deviation. Once a graph is plotted screens may be saved for customisation either by your own programs or the built-in screen editor. This apparently allows labels and boxes, and so on, to be added for the final presentation. It offers the facility to import data in any way desired from the System Delta Database or vice-versa.

Minerva claims the programming facility can even be used by novice programmers as a pie chart can be plotted in a single command.

The price of all this is just £45.95, says Minerva Systems – which seems to be in love with its product, judging by the amount of hyperbole it has heaped on it in its press release!

## MAN LOGIC

By NEIL BRADLEY



# letters

## Spanish interest

I'm a 24 year old Spanish student and I own a PCW 8256. If any of your British readers own a similar model and would like to exchange ideas and information, please write to me.

I have been reading *Your Computer* ever since I became interested in computers and really enjoy it. Long may it continue.

**Fernando Leon Caicoya,
Po Castellana 100,
28046 Madrid,
Spain.**

*Editor's reply: We would suggest the 6128 or PCW series from the Amstrad range, or a BBC Micro or Atari ST.*

## Educational system required

As a lay person I need some advice in the purchase of a first home computer for my son, aged 11, to use when he commences comprehensive school next September.

The school suggests that (1) the machine should be able to run typical applications packages such as word processor, spreadsheet and database (2) for the computer to be useful educationally it must have a printer, although initially a disk drive is less essential (3) as technological standards are advancing so rapidly there is no escape from the possibility of equipment becoming outdated. It is more important that a large user base exists for the chosen system, so that even if the model is discontinued, support will be continued. I understand that the level of support for a machine is reliably indicated by the number of magazines published for it.

My son is very keen on the Amstrad 464 but your opinion would be greatly valued. The question of cost is a consideration.

**R. H. Malin,
Benfleet,
Essex.**

## New excuse for buying chocolate

I used to eat Ferrero Rocher until I discovered Cadbury's. The Rocher boxes were just big enough to hold 5.25in floppy disks, but they were constructed of a rather flimsy plastic and were useless for other disk formats.

On the other hand the clear plastic boxes for Cadbury's hazelnut whirls are much more substantial, and more importantly they will accommodate 5.25in disks, 3in disks, or 3.5in disks. The latter could have been made for them! They fit like a glove, and each box will hold 40 disks.

The sweets are nice as well.

**Paul Hendy,
Wolverhampton.**

## Low-cost flight simulation

I recently bought a copy of your magazine as I am interested in obtaining a home computer. I am due to retire shortly and while I don't think I would be very interested in many of the computer games mentioned in your magazine I have an interest in flying but can no longer afford this pleasure.

Is there a good flight simulator package which would require my previous flight experience to operate and if so, what would be the best reasonably priced computer to run it? Frankly the choice in Dixons is quite bewildering!

Although I have no knowledge of computers I have some knowledge of accounts, so apart from enjoying some simulated flying I thought if I could add a printer to the computer I might be able to do some book keeping.

Can you suggest a computer for around £150 which will allow me to do a few cross country flights and also a few accounts?

**R. Jailby,
Churchover,
Rugby.**

*Editor's reply: As a pilot you will require a good quality simulation such as Sublogic Flight Simulator II. The cheapest hardware on which it runs is the Commodore 64.*

## Dragon group smoke signals

I would like to inform your readers of a Dragon User group which has been supporting our favoured computer for over two years. Indeed, I would like to make a greater awareness of the fact that there are still a great many Dragon users, which is reflected in the group becoming one of the largest user groups in the UK.

The NDUG offers a monthly newsletter, along with a great amount of additional help in all aspects of Dragon computing. Further information can be obtained from 6, Navarino Road, Worthing, Sussex.

**Simon Jones,
Harlow,
Essex.**

## Serious does not mean boring

Congratulations on your new look magazine. As an occasional reader, I shall now be placing a regular order at my local newsagent's.

I am one of the generation who started computing in their teens with the Sinclair ZX81. My exposure and experience with computers has expanded and I now find myself increasingly using computers at work. There must be many around like me who have advanced their computer knowledge, but who aren't too interested or affected by the features contained in the heavyweight magazines. We still have a sense of fun and wonder and realise that taking computing



● **Amstrad PCW: Spanish reader offers information exchange**

***Something to say about personal computing? Why not share it with other readers? Write to Readers' Letters, Your Computer, Greencoat House, Francis Street, London SW1P 1DG. Letters may be edited for length. Don't forget to include your name, age and full address.***

too seriously only the narrows the horizons as far as the future of computing goes (much like the IBM PC). I feel that *Your Computer* is now able to fill that intermediate gap in the market.

This is not to say I have no interest in the more serious side of computing. Naturally using computers at work you do become curious about more practical applications of the technology. Having outgrown the vast majority of 'light' computer magazines that are around, I am pleased to see that you are discussing more pertinent and involved topics on the serious applications of computers while still maintaining a sense of fun. You certainly appear to be the first magazine to realise that computer games and serious computer applications are not mutually exclusive subjects so wide apart that they cannot be examined and discussed in one magazine.

I was a delighted to see the series on Adventure Building, and also look forward to more interviews with the likes of Infocom. I would also like to see features on how a word processor or database program is designed and programmed, and interviews with the men behind programs like Dbase and Lotus 1-2-3.

Please keep up the good work, I hope that you manage to maintain this standard, and look forward to future issues with interest.

***Stuart Hunter,***
***Abbeymount,***
***Edinburgh.***

## Sound tip

I found the article "Music Score" in your May edition very interesting. However, it contains a few errors. The normal state of Register 7 on the Spectrum sound chip is that all bits are ones. If you set bit 6 to zero, as suggested, the RS232 port will stop working, as Richard Sargent noticed. (The I/O port has to be set to OUTPUT to send data to the printer.)

The reason that erratic results are obtained by reading the sound chip registers from Basic is that the sound chip is used in scanning the keypad, 50 times a second – even if you don't have a keypad! A better value for the CK variable in line 110 of listing 2 is 55420.2. That's only about 1% different from the value given in the article, but the change is needed if you want to exactly match the notes generated by the PLAY command.

***Dr. Andrew Wright,***
***Betasoft,***
***Moseley,***
***Birmingham.***

## Bottle message

I hope you will allow me to make use of your columns to ask a question of benefit to the wine trade and consumers.

Like many wine enthusiasts I fight a never ending battle to keep all my tasting notes in a manageable form. It would make sense to computerise them but there is no existing software package that I know of which can cope with them.

So, before I expend large amounts of energy in creating one, I wondered if any of your enthusiastic readers had already created a package.

If so, I'd love to hear from them.

***Nicholas Davies,***
***Managing Director,***
***Hungerford Wine Company,***
***128 High Street,***
***Hungerford,***
***Berkshire.***

## C Prime supplier

I bought the April 87 issue of *Your Computer* and was very interested in the feature *C For Yourself*. I have tried to contact the suppliers of C Prime but the telephone number given in your magazine does not seem to work.

I would be very grateful if you would print details of this supplier.

***E. Y. W. Chan,***
***Reading,***
***Berkshire.***

*Editor's reply: Try Grey Matter on 0364 53499.*

## Protext response

With reference to the letter 'Protest' in your June edition I am compelled to reply in unambiguous terms.

Should any Arnor software fail to perform to the advertised specification, we will replace it or refund the purchase price. We have a policy of continuous improvement and enhancement of software and it is conceivable that the occasional bug slips through which may not exist in earlier or later versions. In these instances the problem is corrected the same day we are made aware of it and replacements sent to any owners we can trace.

We answer all correspondence as soon as we humanly can. Given that some letters are long and detailed a rushed reply is no help to either side. Sometimes we will take two or three weeks to be certain whether the problem is in the software itself or in the way the owner is using it. From there we can proceed to a satisfactory solution.

In the case of Mrs hamill we have her letter on file dated the 20th March and an upgrade version was despatched by us on the 6th April (9 working days from receipt). In the meantime she has written to *Your Computer* who have seen fit to publish the letter rather than help remedy the problem.

If there are any dissatisfied Arnor customers out there, write to me at the address below. For those of you thinking of buying Protext I can only refer you to the review in the May issue of this magazine and point out that if the software "doesn't work" then it is news to me!

***D. J. Fisk,***
***Managing Director,***
***Arnor,***
***Protext House,***
***Wainman Road,***
***Peterborough PE2 0BU.***

## Lexical laxity

Regarding your article on word proccessors (sic) available for different home computers on the market today I feel you have been laxical (sic) with your research as far as the 'ATARI ST' is concerned. Obviously you have not heard of 'HABA SYSTEMS' new offering.

The program I refer to is 'SIGNUM' and if you had sent someone along to the Atari show you would have seen it in action. This program has features never seen before in word proccessors, for instance you can design your own print fonts from within this program and true proportional spacing on screen plus many other features never seen in word proccessing applications before! This is a true wyswig application so why not put matters to right and give this great piece of software the review it deserves.

***K. Brunning,***
***Cambridge.***
***(age 30)***

*Editor's reply: Us at YC would like to, but we're not sure our grammer and particularly speling is good enuf.*

# *line noise*





Good clean family fun – that's the image we have of computing. Okay, so our Damian might spend half his time killing aliens, but at least it keeps the little mite away from nasty things like drugs, crime and, gasp, girls.

And if Damian happens to be a girl, there are even better reasons for keeping her away from boys.

But in the dark recesses of their bedrooms, the Damians who hook their micros up to modems might be getting into more mischief than you realise. The reason is you can now dial up computer systems which are more concerned with bawd than baud, and which put a whole new meaning on the term 'scrolling'.

PBBS Adult, based just outside Woking in Surrey, claims to be the first strictly adult board in the country, but others are starting to appear. It features lewd messages and short stories about the most basic urges.

Online systems are just another form of publishing. We already get news, features and entertainment guides fed into our micros. So it was inevitable that pornography would arrive sooner or later.

It's a tricky subject. There are bound to be people who would be thoroughly scandalised, if not grossly outraged, by the kind of stories on PBBS Adult. Any kind of support for the board is likely to bring down the wrath of the moral brigade. I'm surprised that questions of a deep and sociologically relevant nature haven't already been raised in high places.

On the other hand, any kind of condemnation is just as likely to be interpreted as prudishness. If anything, that's more of a problem. Nobody *has* to log on to this board, after all. Indeed, getting on to the thing is very difficult. It's constantly engaged, which must say something – though I can't work out what.

Even if you log on thinking it's a normal bulletin board, you're quickly disabused of the notion. There are warnings everywhere about the content of the stories. Anyone prone to being shocked is politely invited to log off.

By this time the less liberated readers have probably stopped reading and walked off wondering whether anything is sacred. So we might as well take a closer look at the stories themselves.

Don't get too excited. I've no intention of repeating the salacious events described in such graphic detail on the board. This is a family magazine, and the editor probably wants to keep his job.

Like most bulletin boards, PBBS Adult has two main areas – messages and features. And again, as normal, the messaging part is split into general messages which everyone can read and private email.

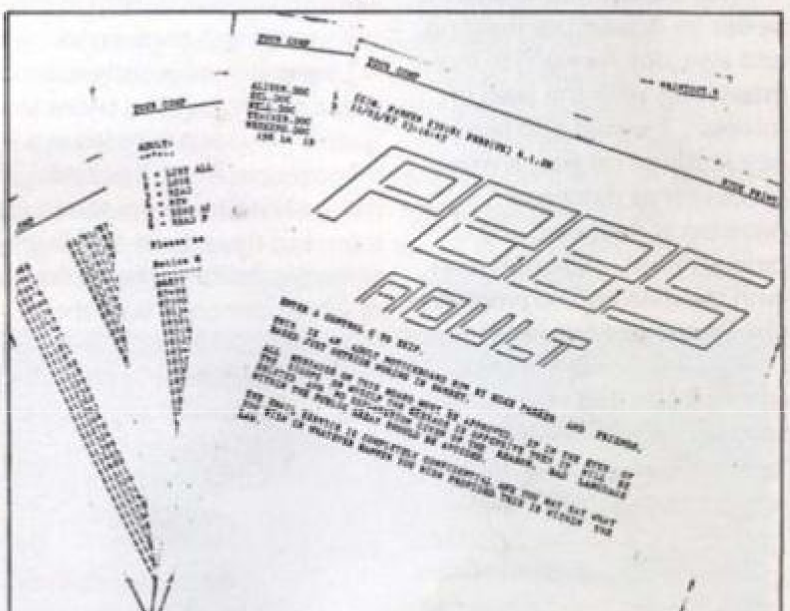
Obviously I can't say what goes on in the email part, but the contents of the general messages are probably a good guide. The system is quite sophisticated, and one of its best features is the way it gives a list of messages, each with its number, date, sender and subject line.

It's the subject lines that tell you this is no normal board. 'Men wanted for posing' says one. 'Danish mags and videos . . . gay lady . . . phone sex', it's all there.

Of the messages I read, most turned out to be disappointingly tame. However, the same can't be said of the feature section. This breaks down into three areas – the adult stories and gay stories sections are open to everyone, but *Bizky* requires you to register.

The name stands for BIZarre and KinkY, so it shouldn't be too hard to work out what it's about. Registration is simply a matter of sending a message to the Bizky sysop assuring him that you won't be shocked or offended by anything you read on the board. This sounds like an attempt to cover the board's operators legally.

The description on the board claims it is 'designed to alleviate the isolation of all who feel that their interests are so unconventional, or socially unacceptable, that precious few channels of communication are open to them.'

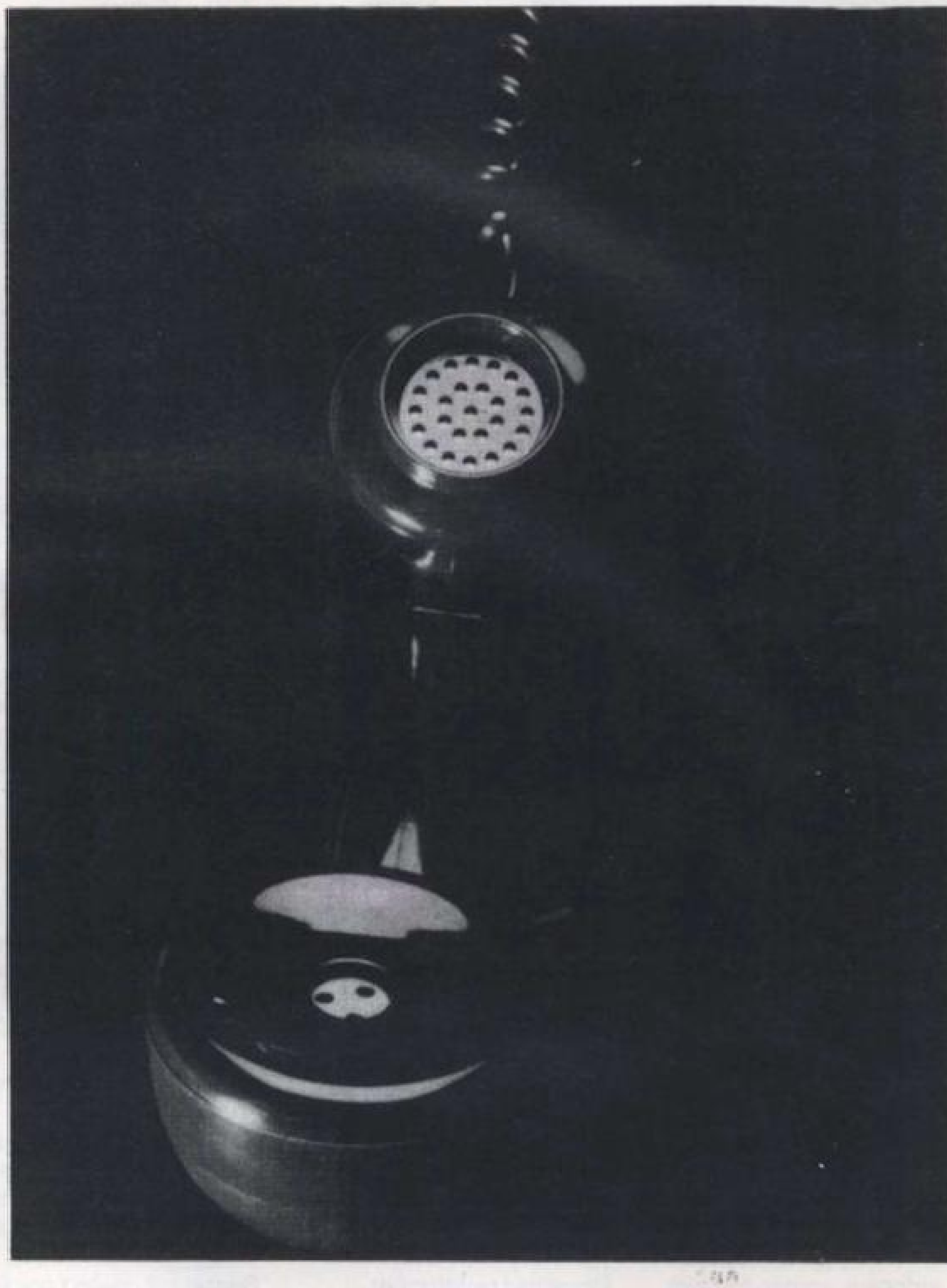



Heavy stuff. The description carries on with some pseudo-psychological nonsense about 'clothing, actions or scenarios which seem charged with strange significance'. The system also promises pictures in the near future – for PC owners, anyway. It sounds as if it could get very out of hand, but the sysop does lay down some strict ground rules – no under-age sex, no soliciting, no mention of drugs and no 'grossly offensive language'. It would be interesting to know what constitutes 'offensive' on a board like this.

I'd have liked to see what sort of thing goes on in this section, but its closed user group status meant I could not get in. Instead, I settled for reading a few of the stories in the adult section. I wasn't impressed.

The stories have titles like 'Nextdoor', 'Teacher' and 'Winsome'. They are, of course, submitted by the board's readers. They're not professional writers, and I didn't expect them to be. All the same, I was disheartened by the lack of imagination in the stories, by the cliches and the pure corn – it's all the old stereotypes in one unwholesome package. And, although it may seem irrelevant in a context like this, much of the spelling and grammar is appalling.

## *news from Phil Rotsky and Ian Burley*



Few of the contributors seem to be writing from experience. I'd be prepared to bet that the vast majority of the stories are pure fantasy, couched in the language of tenth rate mens magazines. The more interesting parts of the body are described as 'pert' or 'full' or 'throbbing'. There's also an awful lot of 'clambering aboard' and 'heaving'. I sometimes wondered whether I was reading about sex or a boat race.

There are plenty of warnings on the board telling you to avoid obscene language in your messages, but there is little restraint in the stories. The choice of words is frank to the point of being gynaecological.

One of the biggest surprises was the number of women who appear to be using, and contributing to the board. That is, I assume they're women. It may be the case that they're actually men – this is a common phenomenon on Minitel, the French viewdata service. The system is used extensively by people wanting to find partners or, more often, wanting to engage in erotic conversation. Sometimes the men pretend to be women as a joke. Other times it's for kicks. I wouldn't be surprised to find the same thing happening on PBBS Adult.

In the board's description of itself, Mike Parker, the sysop, goes to great pains to deny any liability for what's on the board. The same message is repeated several times in different places, but it's never very convincing.

Newspapers, and in particular their editors, carry the can for whatever appears in their pages. If it's obscene or libellous, they're in the firing line. And this should apply just as much to bulletin board operators.

There has been a constant debate among bulletin board aficionados about whether sysops should edit the messages on their boards – in effect censor them – in order to weed out the small but noticeable, unruly and obscene element. There is a purist lobby which hates to see any intervention but which, as far as I can see, has never been able to put up any strong arguments.

Sysops are there to run the boards. Their intervention is not only necessary but desirable – it's what can give a board its individuality. But the sysop also has to bear the responsibility for what goes on the board. This is especially true with something like PBBS Adult. After all, even though the start up messages say you have to be over 18, there's no way of checking if you really are.

There is great potential in a board like this. It can probably help people live out their fantasies safely. And there are no reported incidents of anyone catching AIDS over the telephone. But what it desperately needs is a sense of humour. It's all too ernest, too intense, too many amateurs struggling to write downmarket pornography when what they should be doing is writing uninhibited entertainment. The result does little to titillate – it's too heavy handed, and occasionally pathetic.

# line noise

## Hayes protocol headache

Hayes, the company which created the ubiquitous smart modem control protocol is being challenged in US courts under anti-trust laws over the rights to that same protocol. Modem rival US Robotics is alleging that Hayes uses the Hayes Protocol to gain an unfair marketing advantage by conspiring with rival modem manufacturers, Bizcomp.

Modem manufacturers wishing to feature, and claim, Hayes compatibility need to take out a licence to do so. If US Robotics' action succeeds, the Hayes Protocol could eventually become public domain. However the outcome of any resultant legal action isn't expected for some time, possibly years.




● These Miracle Technology modems improved sales through Hayes compatibility

## VTX 5000 upgrade

Spectre Communications, better known for its Sinclair Spectrum comms pack, has announced a ROM upgrade for what is really a direct competitor to its own product – the humble Prism VTX 5000.

Sales of the much admired Spectre Comms Pack have been disappointing, mainly due to widespread discounting of the VTX 5000 – the only other freely available modem for the Spectrum. Spectre's software, written by Dave Gorski, is probably the main attraction of its modem, so the company has now decided to sell a version of the Spectre ROM to VTX users.

As users of the VTX 5000 soon learn, the standard software is very basic indeed, and most serious users end up with various customised ROM overlays – usually loaded laboriously from microdrive before each online session. Spectre's plug in and go solution looks attractive – only auto dialling is missing from the original Spectre ROM.

The snag is that if you extricate the old VTX ROM and insert the new 16K ROM into your VTX, you almost certainly invalidate the unit's BT approval. At the time of writing no price had been fixed but the ROM is expected to be made available this month.

Spectre Communications Tel: 0204 57293.

## Interlink linked

The first Prestel based gateway to BT Gold has been launched by Micronet. *Interlink* enables Micronet users to log in to BT Gold's Email/information service while remaining attached to Prestel. In other words Prestel's extensive local call access network has been harnessed to enable cheap access to a selection of Gold's facilities.

Interlink's gateway will be connected to Gold's System 24, which gives access to the Infomatics Daily Bulletin (IDB) and World Reporter services along with the usual Email/Telex system. Unfortunately this rules out access to Microlink.

Registration is free and there are no minimum charges. Initially, the 1p per minute gateway time charge will be waived. Peak (SAM to 7PM) Gold time costs 11p per minute and the Off Peak rate is 3.5p per minute.

A modified version of the Shades multi user game viewdata to scrolling-text PAD software interface will enable Prestel screens familiar to Micronet viewers to display Gold information clearly. Prestel still doesn't scroll screens as it's a frame based system, so instead Gold's incoming text wraps around – overwriting itself. Vital control codes not normally available from a viewdata terminal are also provided by the software interface.

Although Interlink is the first, other similar market oriented Prestel to Gold gateway services are expected to follow, probably for travel agents and City/Business users.

Micronet can be contacted on 01-278 32453 or look at page 811611.

## One-to-One in difficulties

One of BT Gold's main Email service rivals, One-to-One, has been suddenly put up for sale by its parent company, Pacific Telesis. The news was a shock for One-to-One staff, causing much initial confusion. Though One-to-One is a much smaller operation than Gold, with 16,000 subscribers and the recent introduction of new hardware late last year the future was looking bright.

So far there has been no visible effect on the One-to-One service, though PT have confirmed that they are pulling out. One possibility to save the service is a management buyout. In the meantime One-to-One's Roger Dean says that contrary to fears that the service would soon be closed, scheduled service enhancements will continue.

# Make headline news ...on your PCW

THE revolution which has sent a storm through the printing industry now comes to your computer. With the Desktop Publisher you can unleash the graphics potential of your PCW to design newsletters, flyposters, adverts, letterheads and company reports – then print out the final artwork with headlines, text and graphics exactly where you want them.

## User friendly

And it's so easy to use. Simply move the pointer round the screen, then click on the option you require using the keyboard or the AMX, Electric Studio or Kempston mouse.

Drop-down menus give you split-second access to all the many facilities available.

## How it works

Start by planning your layout: Decide the number and width of columns, and position windows for graphics, captions and headlines.

Then load in your text written in LocoScript, or any other word processor that can output an Ascii file. The built-in text editor can produce perfect fully-justified text with bold and italic characters shown on the screen just as they will be printed out.

You can design artwork using the feature-packed graphics program that is included. You can draw lines, boxes, triangles and ellipses, fill areas or paint with one of 16 patterns, and zoom in for precise pixel editing. There's even a built-in font editor so you can design your own custom character sets.

When you are ready you can preview your masterpiece in miniature, then print it out in top-quality mode or use the faster draft mode.

## What you get

The double-sided disc contains the three main programs, a selection of useful clip art, extra fonts and tutorial page.

There's also an extremely comprehensive, carefully-written manual with a hands-on guide that will ensure you are up and running in no time.

**_And all for the incredible price of only £29.95_**

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| Bouncy | Poster |
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*The full range of fonts*

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**This package includes The Desktop Publisher software *PLUS* an AMX Mouse and a serial interface to connect it to the back of your Amstrad PCW.**

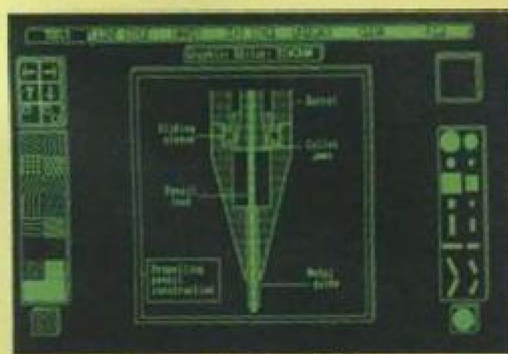
**You now get the added flexibility of the precision-engineered Mouse – for a total price of just £79.95.**



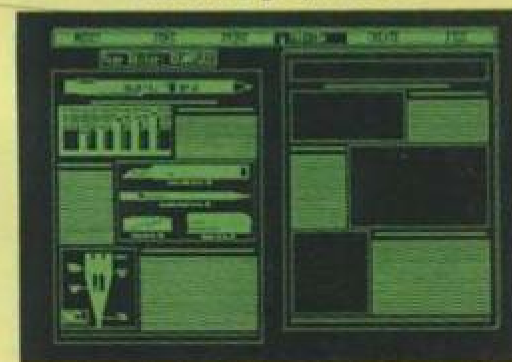
## How to use The Desktop Publisher



*Edit the text . . .*



*Draw the graphics . . .*



*Preview the page . . .*




*. . . the finished result*

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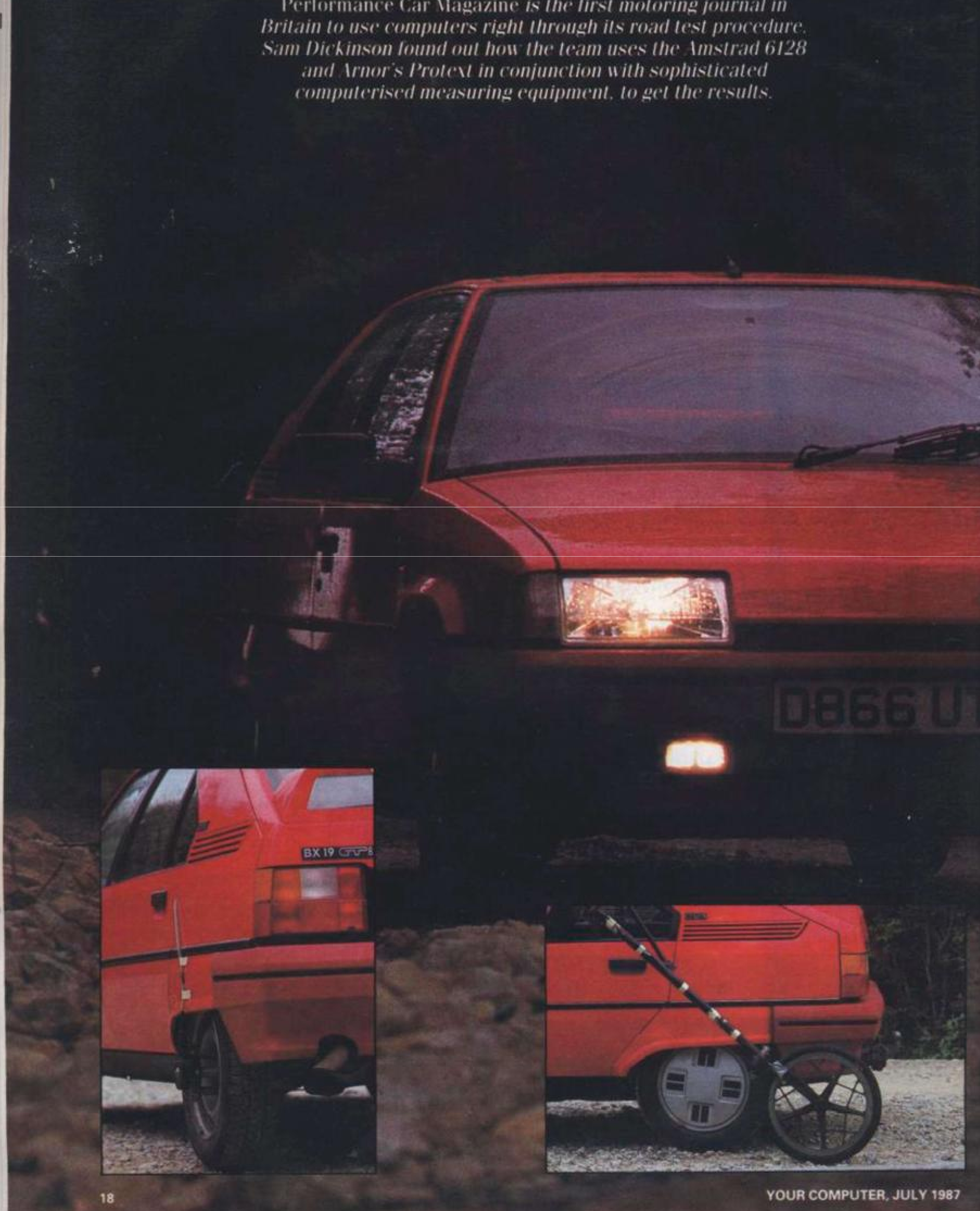
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A004

# TESTING TIMES

*Performance Car Magazine is the first motoring journal in Britain to use computers right through its road test procedure. Sam Dickinson found out how the team uses the Amstrad 6128 and Arnor's Protext in conjunction with sophisticated computerised measuring equipment, to get the results.*



*It is only a short white line, stained and decidedly tatty-looking.*

*The line is a marker and juts out from the edge at one end of a long thin strip of tarmac, itself three hundred yards or so longer than the mile. At each end is a steeply banked turn, doubling back to force a continuous loop.*

*There's a cool, gentle breeze, and the ambient temperature is at an optimum, somewhere in the low sixties. The landscape is bleak, grey and very quiet.*

*A faltering whine drifts across the mile straights and a powerful electric starter coaxes six horizontally opposed pistons into action. That silence is quickly shattered by a noise apparently quite alien to such tranquil surroundings. There's a splutter, then a blast as the 231bhp engine bursts into life, blips a couple of times then settles to a low, satisfying rumble.*

*The nose of the red Porsche 911 Carrera edges towards the white line and stops with front wheel just touching. It is low and very wide, with huge tyres fitted to the rear wheels, and it is capable of around 150mph.*

*The co-driver resets the microprocessing unit of the fifth wheel computer and acknowledges that it's time for the driver to start the run in his own time. Right foot eases the throttle and the revs climb smoothly to hover at 5,000rpm, found by trial and error to be the best 'launch' revs for this car.*

*The sound quickly turns to an enraged bellow as the driver smoothly feeds in the clutch and squeezes the throttle pedal hard to the floor. The Porsche literally leaps from the line and hurtles towards the three hundred yard marker post at the end of the mile as though it holds a grudge against it.*

*The computer quietly records the event without fuss while mayhem continues everywhere else.*



This is the high-tech world of road testing, the sort of evaluation that the top magazines are noted for and which provide the information so many of us want to know when buying a car, or just out of interest. Computers are starting to feature heavily in this field, as they are in many others.

"Proving ground work, like acceleration testing on the mile straights means careful, accurate measurement. Today, that means extensive use of computers, not just to produce the data but to store it. *Performance Car* Editor Jesse Crosse explains.

"Measurement of performance requires two pieces of hardware, a fifth wheel, and a stop watch. The fifth wheel represents an investment of several thousand pounds, and is a highly specialised piece of equipment – you can't pick one up in Dixons with extra program on special offer! It has a hard life too. Car and wheel occasionally part company so they have to be mechanically tough."

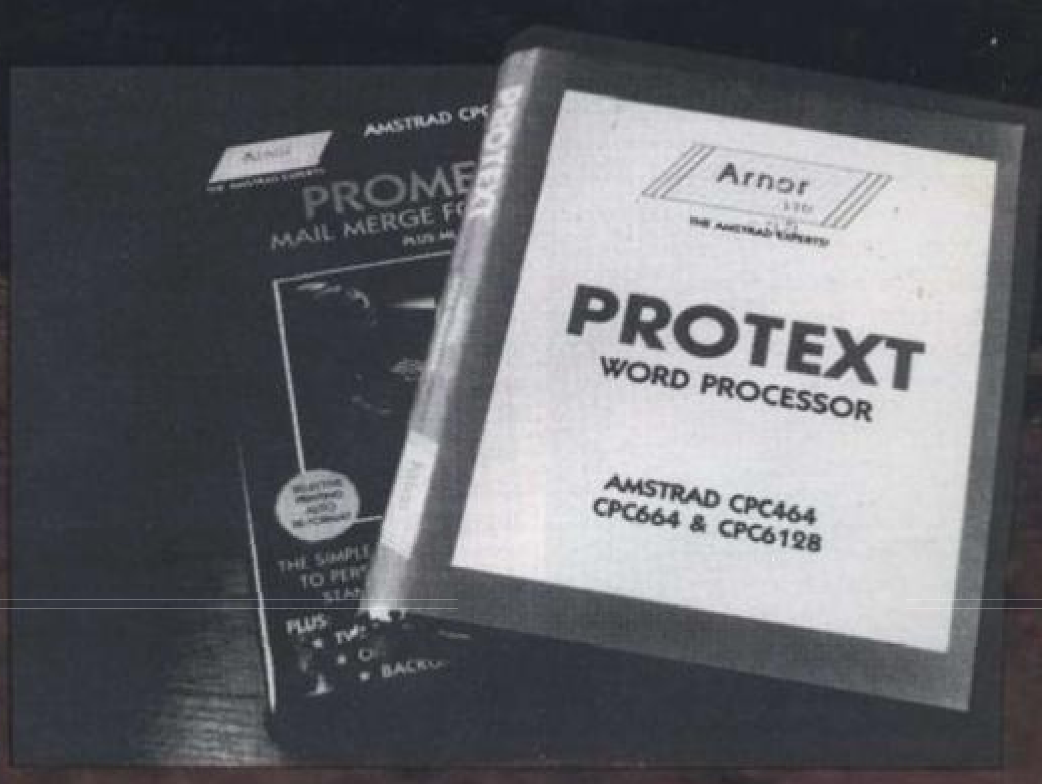
Traditionally, a fifth wheel is exactly that, a fragile addition to the four the car already has, but which attaches to the body in some way, usually by means of special suckers. They trail from lightweight poles or forks, and a sensor at the wheel sends information to a microprocessor in the car's cockpit.

"The use of computers in fifth wheel technology is relatively new, and has really taken off in the last five years," says Jesse Crosse.

"In the bad old days, a fifth wheel simply drove a conventional speedometer, fitted in a box, and which was held on the passenger's lap. He would then record and write down the times using a stopwatch. The point it, that car speedometers are not that accurate and can't be accurately enough read to record the precise performance. That's why we get so many letters from people who say 'my Cavalier SRi can do 130mph'. We find that at 70mph speedometers are usually a few mph out but that by around 110mph they can start becoming wildly inaccurate, maybe as much as 15 per cent.

"The old fashioned wheels were mechanically crude too, and we had to remove the bumpers, fit a metal bar, and bolt the wheel to it. You couldn't do that with most modern cars."

Now, there are many systems on the market, some costing well in excess of £20,000.







- Left: cumbersome Lamar in-car unit
- Above: Lamar fifth wheel

Systems can work in different ways, and may not necessarily use a wheel. There are those, for example, which transmit a beam of light to the ground and monitor the speed at which the road passes beneath the car. There are those too, which attach a sender to one of the undriven wheels of the car. These are the best, thinks Jesse Crosse.

"They give you complete freedom. We often have to do special tests abroad, it may be an exclusive on a new model or one of the modified high performance saloons produced by some of the specialist German tuning companies. In that case you are testing on autobahns and secluded roads. You can't really fit a wheel on an autobahn, but you can fit a wheel sensor. You could drive around all day in that way if you want to."

The wheel sensor attaches to a plate, which in turn fits to the wheel nuts of the car by means of special sleeve clamps. The system *Performance Car* uses is something of a first, and cost just over £2,000.

"There have been similar systems, but supplied as accessories to existing fifth wheel setups. We don't have a wheel at all with this outfit. The problem with the others is that the sleeve nut design prevented their use with alloy wheeled cars, where the wheel nuts are usually deep set. That means most high performance cars!".

In fact, *Performance Car* has pioneered the use of advanced fifth wheel equipment and was the first magazine in the country to use computerised fifth wheel equipment successfully.

## Pioneers

"Our first wheel was the *Lamar*. The wheel attaches to the car by means of a giant sucker, which is evacuated by means of an integral hand pump. These suckers are designed for lifting plate glass and have a 'breaking strain' of 50kg.

"The wheel is that of a BMX bike and the mounting tubes and fork are from magnesium alloy. We still use it because our new system won't work on a driven wheel so isn't suitable for four wheel drive cars."

## Acceleration

The Lamar microprocessor gives a printout from a small thermal printer and records four pieces of data; time elapsed, distance travelled, rate of acceleration and constant velocity. It updates about every half a second and gives a long readout for a typical acceleration run.

But the chip is calibrated so that one such piece of data falls exactly on each 10mph, to give the necessary acceleration from rest results, and allow the testers to calculate the fourth and fifth gear acceleration times. These are recorded on separate runs in the respective gears. The chip is also calibrated to record a set of times for 1320 feet, exactly quarter of a mile, one of the traditionally quoted acceleration distances. The new Flowtronic system, gives essentially the same data, but in a slightly different way.

"The problem with the wheel though," Jesse Crosse went on to say, "is that even that becomes inaccurate at very high speeds on the banking we use for top speed testing. The limitations are mechanical and the Flowtronic system, which does away with a wheel, theoretically shouldn't suffer from that. We still prefer to time cars on the banking and calculate the results. The distance of the top lane at both are proving grounds we use is known precisely, so results are very accurate."

The Flowtronic system works in a slightly different way to the Lamar. While the wheel of the Lamar is calibrated by changing its circumference (achieved by inflating or deflating the tyre!) the Flowtronic must be calibrated to suit the diameter of the wheel to which it is attached. Testers do this by driving the car over the measured mile (easy at the proving ground) and pressing a button which sets up the programme. The computer records a calibration number, so that if the same wheel size is encountered in the future, it can be keyed straight in.

But what of the data when it is collected?

"It can take about half a day for a journalist to work out and produce the table of figures that appear in the magazine, using just a Casio," says Crosse.

"After that, it needs to be stored carefully, and should be easy to retrieve. Results are easily lost and we may need to refer back to something several years old. I wanted to set up a cheap and effective system, not only for storing the data, but also for doing all the complicated calculation work on the raw material collected at the proving ground. It is also necessary for the data files to be compatible with word processing software, and for programs to share the same operating system. Otherwise getting the data up for reference would be harder than pulling it out of a file or looking it up in a back issue."

Obviously nothing so sophisticated existed, so Crosse, who had been word processing on Amstrad CPC machines since the 464 came on the market, looked around at what was on offer.

## Imaginative

"I looked at some proprietary database packages, but at the time they were mostly downgraded sixteen bit programmes, or if they weren't, they couldn't search on multiple criteria which was essential for some aspects of our data interrogation processes. For example, I wanted to put our price and specification listings at the back of the magazine *(Performance File)* on file, so that we could pull out things like "all hatchbacks costing between £8000 and £10,000 which have over 100 bhp".

Some one day courses at Kingston Polytechnic taught Crosse the nitty-gritty of database programming. After that it was just a question of getting on with it.

By then he had discovered *Protext* for the 6128, which he considers to be *the* best word processor you can buy. Contributors who use *WordStar* and similar programs on IBM PCs, he says, are often amazed at the speed and flexibility it exhibits. When *Promerge Plus*, the mailmerge overlay came out, he soon realised that its mailmerge facilities were so sophisticated, that it turned Protext into a database as

well. Prototype programs written in Promerge Plus followed, and a year later he completed in its entirety, a complex version that prompts the user for all the data collected at the proving ground, in the order it was recorded, performs all the necessary calculations right down to correcting fuel consumption (which it also calculates) for odometer deviation and finally rounding all the data down to one decimal place (Crosse says he needed some help with that bit). The program gives you the option of several modes depending on which wheel was used and what proving ground (banking distances vary), automatic or manual transmission, and so on.

When the program is run, data is written straight to disk and permanently stored for easy retrieval.

"I doubt if even Arnor are aware just what their program can do given a little imaginative application. I do know that you couldn't do what a few hundred pounds worth of kit can do, for many, many thousands using off the shelf business software.

The two screen editing of Promerge Plus is the other big thing. We can be working on text in one, and load a road test record into another, and even move the whole record or bits of it on to the screen we're working on. It also means we can leave our special address book (again written in Promerge Plus) running in the second screen, with the addresses disk in a second drive. To round everything off, we initialise Protext using the Control and Enter keys of the 6128 (which gives 'RUN "DISC' in Basic). This loads a basic program which we obviously call 'disc', which in turn, sets up the function keys and then automatically fires up Protext itself. So functions like 'PS' (print to screen) 'CAT', CLEAR and 'SW' (swap from screen to screen) become single key functions. There are some other functions too, to do with our special programs, but I'm keeping mum about those!

We have just opened a BT Gold account so we can retrieve copy from people quickly over the telephone, and using the Gemini *Intergem* software on an 8256, we can convert MSDOS files from contributors IBM PCs to run on 6128 Protext. We take a lot of contributors material on disk now."

Intergem is a real breakthrough in the compatibility stakes and made a nonsense of the IBM compatibility business overnight. It consists of a small piece of hardware fitted where the second drive of the 8256 would normally go, plus the software itself which is on disk. You also need a second, 5¼ inch disk drive (*Performance Car* uses a Cumana unit which can handle 40 or 80 track) to accommodate the IBM floppies. There are further problems if converting fromn WordStar whose files require some "jiggery pokery" to make them completely compatible.

*Performance Car* also uses Prospell, Arnor's spell checker, which like Promerge Plus and Protext, they have on ROM chips fitted to the Micropower Rom cards now recommended by Arnor.

"We started with the ROM card from Honeysoft, but it was just an open circuit board and therefore not suitable for office use. The Micropower units are closed plastic boxes which can take up to eight ROMs. The speed of the system on ROM is fantastic. Getting into Protext takes a split second, and using the spell checker is instantaneous.

"Doing complex searches on some of our Promerge Plus database files can be slow, but no slower than when using any other Random access database on an eight bit machine. I'm just looking forward to the day Arnor get Protext and Promerge Plus running on the IBM compatible, then IBM will really have to watch out!"

"I think what we've achieved here is food for thought. It proves that it really is possible to achieve extremely sophisticated results, for relatively little cost. It also proves that overpriced business software and hardware will truly become a thing of the past. It just needs more computer industry consumers to realise that fact."



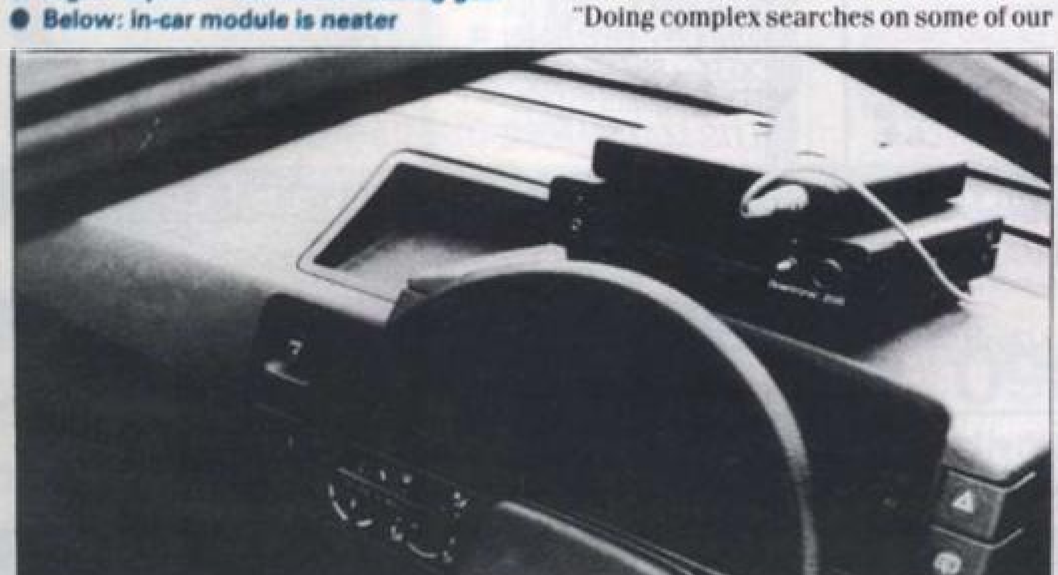
● Above: Arnor software eases data storage and retrieval

Prices from JKL Computers, 7 Windsor Street, Uxbridge, Middlesex. Tel: 0895 31815

| | |
|---|---|
| Amstrad 6128 Green Screen | £299.95 |
| Amstrad 2nd disk drive | £99.95 |
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| Promerge Plus on chip | £34.95 |
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● Right: superior Flowtronic sensing gear

● Below: in-car module is neater





# MUSIC SCORE

## THE ATARI ST IS ONE OF THE FEW HOME COMPUTERS WITH BUILT-IN MIDI. WE LOOK AT TWO PROGRAMS WHICH WILL HELP YOU TO EXPLOIT THIS FEATURE



## 1 SUPER CONDUCTOR

The Musical Instrument Digital Interface (MIDI) has transformed the way much of today's popular music is produced. Using it, one can connect a whole range of musical devices including synthesisers, rhythm machines and sequencers. And, more importantly, it can interface a home computer to an electronic keyboard; a combination which facilitates the recording and instant playback of entire musical scores.

Because music recorded using a MIDI keyboard is stored in the computer's memory as data, it can be manipulated in the same way as 'normal' program data. All the different facets which make up a score can be altered to perfection through the computer's keyboard. This data can then be saved on to disk and reloaded for playing at a later time.

Until recently it was almost impossible to buy a computer, other than an MSX machine, that had a MIDI built in as standard. Today there is the Atari ST. Though not clearly visible, it has a MIDI in the form of two unobtrusive 5-pin DIN sockets tucked away in a small recess in the left-hand side of its case. One socket is labelled 'MIDI Out', the other 'MIDI In'. These can be connected to an external MIDI device via its 'In' and 'Out' sockets, also 5-pin DINs, respectively.

To make full use of the Atari's MIDI facility requires software that will make sense of the MIDI data received by the computer. Packages designed to do this task are quite often expensive and difficult to use.

Michtron's *Super Conductor* is therefore something of a revelation in both price and performance. At just £49.95, Super Conductor provides a 16 Track MIDI sequencing package powerful enough for professional musicians and yet so easy to use that even a novice could feel at home with it after an hour or two.

To get the most out of Super Conductor you will need a MIDI keyboard; a Casio CZ-101 is ideal. The program is able to turn the Atari's internal speaker into three separate monophonic synthesisers, though I found these noises feeble and uninspiring. Even the preprogrammed demo tunes contained on the Super Conductor disk are little more than a cacophony of beeps.

### MEMORY

Super Conductor is able to store a maximum of ten tunes in the Atari's memory simultaneously, each of which can be toggled by pressing one of the micro's function keys. When the program is loaded, a menu is displayed containing a list of the titles of the pieces currently in RAM and which function key they are stored on.

Pressing any of the Atari's function keys when in Super Conductor accesses the song edit buffer, the place where a composition is 'built'.

I am sure most composers would not refer to their art as building but that is exactly what one does when creating a composition in Super Conductor. Pieces



of music consist of blocks rather like bricks, and each brick forms a small part of the overall sound.

In the song edit buffer, the screen displays a large rectangle with 16 horizontal lines ruled across it, like a piece of writing paper. This is labelled Blocks. To the left are three columns, two showing the numbers 1 to 16 and labelled Track and Channel, whilst the third is used to indicate whether or not a track is active.

Tracks are single layers of sound that can be played individually or in concert. Readers familiar with the process of recording will probably know that when bands record a piece of music, they do not necessarily play together but record each instrument's part separately on different tracks which are then mixed together in the final production.

Much the same is true in Super Conductor; sounds are recorded on different tracks and then combined to form a fuller sound or played back individually.

Before the contents of a track can be played back it must be assigned a channel or destination device. This tells Super Conductor where to send the information. Although there are as many channels as there are tracks, information from more than one track can be sent to a single channel.

2

## SOUND

When the Atari's internal speaker is used in lieu of an external keyboard, the three channels available are prefixed by the diacritical letter I. Were the I not included, Super Conductor would try to output data through the MIDI port, resulting in no sound being produced.

One of Super Conductor's most powerful features is the ability to record blocks and assign them to any channel. In some packages, material is treated as being channel dependent because of special MIDI control codes input from the synthesiser keyboard while recording. Super Conductor overcomes this restriction by removing the control codes and replacing new ones determined by the track on which the blocks appear during playback.

There are six pull down menus on the song edit buffer screen. The two most important are Block and Edit.

The Block menu contains the functions for creating and storing blocks. To make a new block, you first select Record Block from the Block menu; a small dialogue box then appears asking you to input the name of the new block, the beat it should start on when played back and the total number of beats to be recorded.

When this information has been entered, a metronome appears to count you in. On the fifth click or beat, Super Conductor starts recording and you must begin playing.

To hear the block you recorded, it has to be placed in an available gap along one of




the sixteen lines representing tracks in the song edit buffer. Clicking on a track highlights it and produces another dialogue box asking you for the name of the block. A white highlighted strip then appears on the track along with the block name.

## COMMANDS

Once defined, a block can be picked up and copied on to any other track on the screen. It is even possible to make a further copy on the same track causing Super Conductor simply to repeat the block during playback.

This does not require any extra memory since all you are doing is telling the program where it should play a specific block. The only time when more RAM is used is when a further block is created and it too has to be stored in the buffer.

Besides moving and copying blocks, the Block menu also includes commands to mix, split and append them. Mix is the most interesting of these functions because it allows you to combine two blocks into a single one.

If this is difficult to picture, the Super Conductor manual gives an example where one block contains a series of notes while a second one just pitch bend information; putting both blocks on tracks assigned to the same channel and then mixing them forms a new block with pitch bend being active through a predefined range of notes. Further commands for modifying the structure of blocks are found in the Edit menu.

Quantize Blocks is designed to autocorrect a block. The timing of a block is corrected so that each note played during a recording is played back on the right count with respect to the time frame selected at the beginning of the session. What Quantize does, in effect, is go through a piece of music cleaning up any timing errors made by you when you played it originally. This is probably why much of today's electronic music sounds so passionless and mechanical.

The most powerful command is Edit Block because it allows you to create a new block or modify an old one without having to go anywhere near an electronic keyboard. To be able to do this, however, one needs a sound understanding of the operation of a MIDI synthesiser.

In Edit Block, the screen displays a table showing the individual notes making up the block followed by lines of MIDI data indicating key velocity, polyphonic aftertouch, pitch bend, channel pressure, program and controller. An example of a line of MIDI data, taken from the manual, could be as follows: pitch bend:02450 00013/004/000. Which, for those readers not aufait with MIDI, 'will change the pitch bend to the stated value at bar 13, beat 4, click 0'.

If you are a musician who frequently uses a MIDI keyboard and are looking for an affordable recording package, Super Conductor is well worth a look. The package contains far too much to include in an article of this size, so I have tried to convey the immense power of a package that surprisingly breaks the £50 barrier.

## DIGIDRUM

The Atari ST is fast becoming the standard computer for musicians. Its exceptional combination of a voluminous memory, built-in Midi ports, high-resolution graphics and an affordable price have already persuaded dozens of software writers to produce musical programs for the ST.

To date, most of the packages have been designed to control, and record information from, instruments such as synthesisers linked to the ST via the Midi ports. Now a British Atari specialist, 2-Bit Systems, has produced two packages which use the capacious memory of the ST to store digital recordings of snatches of sound, a technique known as sampling.

The first, which we examine, is a £24.95 package called *Digidrum* which holds 16 fragments of sound, most of them recordings of percussive instruments, in the computer memory and can be programmed to play these back at staggered intervals to create the impression of a percussionist at work.

While the program is loading, the screen is filled with an impressive depiction of a drum-kit. Unfortunately the high quality of this initial artwork is not maintained in the working screens of the program, which are rather drab.

After about half a minute, the rhythmic sounds of a demonstration tune begin to thunder or, more accurately, to rattle, from the monitor speaker. The tune demonstrates some of the potential of the package and continues to do so until you press a key to enter the main program.

## CONTROL

An initial disappointment is that although the program uses drop-down menus they are not mouse-driven but must be chosen using the cursor keys. The ST user tends to take mouse control for granted and it is only when the facility is not offered that you realise how useful it is.

The Digidrum loads automatically a default kit of 16 pre-recorded sounds, including a bass drum, a snare, a pair of toms, open and closed hi-hats, a trio of electronic percussion instruments and, for light relief, a dog bark. The most effective sounds are those, like the cowbell and snare, which are short and sharp. The least effective are low-frequency sounds such as the bass drum or naturally long-lasting sounds, such as the open hi-hat which are noticeably truncated.

Significantly, there are no crash cymbals as the samples are too short, lasting less than a second at the normal playback rate, to reproduce such lengthy sounds accurately. An option allows you to dou-



ble the length of the sounds by halving the playback rate but the resulting sound quality is so poor that it is not a realistic option.

Six extra sounds, including a clanging drainpipe and a quacking duck, are included on the Digidrum disk. They can replace any of the sounds in the default kit and the new kit thus formed can be saved for subsequent use. An additional disk, costing £14.95 contains 41 more samples, including some impressive Latin-American sounds, from which other kits can be fashioned. The compilers' penchant for animal sounds is apparent with a trumpeting elephant, a mooing cow and a yapping dog included among the more conventional percussive sounds.

## INTERVALS

By reading those sounds from the ST memory at specified intervals and replaying them either through the monitor speaker or, as we shall see, through an external amplifier, the Digidrum package can produce effective rhythmic patterns.

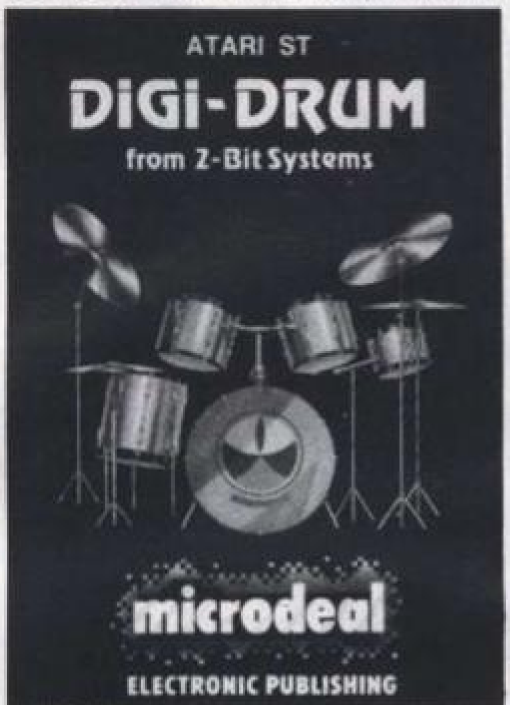
The basic unit of timing in the package is the beat. There can be between four and 32 of those beats in a pattern, usually equivalent to a musical bar, and on each beat any two of the 16 sounds stored in the ST memory can be played back. Up to 99 patterns can be stored simultaneously in memory and combined in any order to form songs.

Songs are assembled by specifying the pattern number and the number of times it is to be repeated. A string of 70 such entries is possible, allowing a song to continue for up to 6,930 patterns before repeating itself, more than sufficient for most musicians' needs.

The most important screen is probably the pattern editing screen where the sounds to be played on each beat are defined on a sound-v-beat grid. There are two ways of doing this – by placing markers on the grid using the cursor controls or by tapping the rhythm on the function keys. The first approach is known as step-time entry, the second as real-time entry.

Only two of the 16 resident sounds can play on the same beat. That seems rather restrictive, especially as some of the drum simulators for 8-bit machines such as the Spectrum and Commodore 64 manage to play back up to three sounds simultaneously.

Once you have built a few patterns on the pattern-editing screen you can move to a song-editing screen to string them together. The speed at which the patterns play back is set using an odd system with tempo values ranging from 1 to 50, each unit representing 1/50th of a second. That results in slow tempos having larger values than fast ones, thus contradicting musical convention. A more sensible approach would have been to use the standard musical tempo notation




of beats/minute.

That lack of consideration for the needs of the user is common in the Digidrum package. Although the program does what it claims, too little thought has been given to the user interface, making relatively simple operations unnecessarily laborious.

The prime example is the omission of mouse controls but other examples abound. For instance, when defining patterns in the instrument-v-beat grid, a cursor is guided round using the cursor keys. It is annoying that there is not auto-repeat on these keys, so to move the cursor from its home position at the top right of the grid to the bottom left can require up to 40 separate keypresses.

## CHANGES

Each time you want to hear the results of changes you have made to a pattern the grid disappears and when it re-emerges the cursor has returned to its home position, thus multiplying the number of keypresses and the frustration of programming a pattern.

Other exmaples of lack of consideration could be cited; the real-time programming display is particularly awkward but with perseverance you can learn to live with them. The sloppiness extends to the manual, which is poorly-laid-out and mis-numbered. The overall impression is of a package put together in a hurry. With luck, these problems will be eliminated in a later version.

The program could also benefit from some additions. It would be extremely helpful if one pattern could be copied to another. The different patterns which make up a song are usually similar and copying would allow minor changes to be made to one pattern to create a variation on it. At present each pattern has to be specified from scratch.

It seems strange that the programmers have not exploited the greatest musical asset of the ST, its Midi ports. They could have been used to synchronise Digidrum timing with external instruments or to allow the patterns to be programmed in real-time via synthesiser keyboards. Neither of the options is offered.

## QUALITY

The basic Digidrum package will play back only through a monitor speaker. That is done by some clever manipulation of the ST sound chip but is, at best, a compromise between sound quality and price. To be heard to best effect, the sounds should be processed by an external digital-to-analogue converter and sent to a high-quality amplifier and speaker.

2-Bit Systems has developed a converter of this type which plugs into the ST cartridge port but, as *Your Computer* went to press, it was expected to be available only as part of the 2-Bit £129.95 *Replay* package which will allow users to produce their own samples.

So you have the option either of paying £25 and tolerating the tiny, muffled reproduction of the monitor speaker or spending almost £155 to enjoy the full 10KHz bandwidth of the Digidrum samples. At the price you are approaching the cost of a dedicated electronic drum machine and many musically-minded ST owners would prefer to use their computers for Midi sequencing packages rather than to replicate the functions of a dedicated instrument costing little more.

One solution to the cost problem could be for 2-Bit, and its distributor Microdeal, to produce a simpler converter cartridge, without the user sampling facilities, at a lower price. It would be a pity if the full potential of the Digidrum package was not realised because the converter hardware was too costly for most users.

At present, the Digidrum package offers extremely good value at £24.95 as a novelty rather than as a musically-useful tool. There is certainlyu no other package like it for the ST yet. As I have indicated, it is not without its flaws but nevertheless it could provide hours of rhythmic fun.

**Microdeal Ltd, Michtron,**
**Box 68,**
**St. Austell,**
**Cornwall PL25 4YB.**
**0726 68020.**

# THOUGHTS & CROSSES

## (COMPUTERS) LTD.

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| Amstrad CPC464 with colour monitor + £100 FREE software | £299 |
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| Amstrad PC1512 CM HD20 | £1229 |
| Amstrad PC1512 CM SD (single drive/colour monitor) | £711 |
| Amstrad PC1512 MM DD (twin drive/mono monitor) | POA |
| Amstrad PC1512 MM HD20 | £1033 |
| Amstrad PC1512 MM SD (single 320K drive/mono monitor) | £516 |
| Amstrad PCW8256 | £458 |
| Amstrad PCW8512 | £573 |
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| Atari 520STFM | £350 |
| Atari 520STM | £249 |
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| Commodore Amiga A500 / Amiga 1081 Monitor | £860 |
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### CENTRONICS PRINTERS

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| Canon A-55 NLQ 156cps dot matrix | £425 |
| Canon PW1080A NLQ dot matrix | £286 |
| Citizen 120-D NLQ dot matrix | £196 |
| Citizen MSP-10E NLQ dot matrix | £325 |
| Citizen MSP-15 NLQ dot matrix | £325 |
| Citizen MSP-15E NLQ dot matrix | £390 |
| Citizen MSP-25E NLQ dot matrix | £525 |
| Citizen Premiere 35 daisywheel | £649 |
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| Juki 6200 daisywheel | £369 |
| Panasonic KXP 1081 NLQ dot matrix | £199 |
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### EXTERNAL CENTRONICS INTERFACES

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| Centronics → RS232 converter | £55 |
| Centronics Interface for Acorn Electron | £19.95 |
| Kempston Interface E (ROM based) for Spectrum | £39.95 |
| QL Centronics Interface | £20 |
| Rampoint Interface for ZX Spectrum/+/+2/128 | £34.95 |
| RS232 → Centronics converter | £55 |
| Tripler 20/64 for VIC20/64 | £50 |

### PRINTER ACCESSORIES

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| Citizen 1200 single sheet feeder | £105 |
| Epson LX80/86 sheet feeder unit | £65 |
| Epson LX80/86 tractor feed unit | £25 |
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| Juki 6100/6200 tractor feed unit | £169 |

### PRINTER RIBBONS

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| Amstrad DMP 2000/3000 | £5 |
| Amstrad PCW8256/8512 | £8.50 |
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| Brother M1009/DM5 | £3.80 |
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| Citizen MSP-10/20 (can use Epson FX80) | £6 |
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| Seikosha GP100 | £4 |
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| Star NL10/NX10/Gemini II | £7.50 |

### PVC COVERS

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| Amstrad colour monitor | £4.80 |
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| Amstrad DMP2000/3000 | £4.80 |
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| BBC A/B/B+ | £3.99 |
| BBC Master 128 | £4.50 |
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| Canon PW1080A/Kaga KP810 | £4.80 |
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| ZX Spectrum Plus 2 | £3.99 |

### 5.25" DISKETTES

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| Thoughts & Crosses Universal D/S D/D 40T | £9 |
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| Thoughts & Crosses Universal S/S D/D 40T | £9 |

### COMPACT DISKETTES

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| Amsoft CF2 3" diskettes | 10 for £29 |
| Thoughts & Crosses Double Sided 3.5" diskettes | 10 for £22 |
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### MONITORS

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| Microvitec 1431 AP standard res. RGB/CVBS/audio | £235 |
| Microvitec 1431 MS standard res for BBC | £220 |
| Microvitec 1431 MZ standard res for Spectrum | £199 |
| Microvitec 1451 AP medium res RGB/CVBS/audio | £345 |
| Microvitec 1451 DQ medium res for Sinclair QL | £275 |
| Microvitec 1451 MS medium res for BBC | £295 |
| Philips 7502 anti-glare green screen (20MHz) | £82 |
| Philips 7513 anti-glare green screen for IBM | £115 |
| Philips 7522 anti-glare amber screen (20MHz) | £95 |
| Philips 7542 anti-glare white screen (20MHz) | £95 |
| Philips CM8533 med res colour (RGB/composite col/mono/audio) | £290 |

### LEADS

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| ACT Apricot/Sirius Centronics printer | £15 |
| Amstrad 464 RGB/power extension | £6.95 |
| Amstrad 464/664/6128 Centronics printer | £10 |
| Amstrad 6128/664 cassette | £2.40 |
| Amstrad expansion port extension | £10 |
| Amstrad PC printer | £15 |
| Atari ST – Philips CM8533 monitor | £15 |
| Atari ST Centronics printer | £15 |
| BBC Centronics | £10 |
| Commodore Amiga Centronics | £15 |
| Commodore Serial IEEE | £5.95 |
| Einstein Centronics printer | £10 |
| IBM Centronics printer | £15 |
| QL joystick adaptor (to use Atari joysticks) | £4.95 |
| QL to RS232 25 'D' | £14.95 |
| RS232 25 'D' to RS232 25 'D' (male/female) | £15 |
| Spectrum 128 joystick adaptor | £4.95 |
| Spectrum 128 to RS232 (25 way 'D') | £14.95 |

### MODEMS

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| Amstrad complete communications package | £169 |
| Linnet V21/23 | £139 |
| WS4000 modem with autodial board | £170 |

### PSION ORGANISER PRODUCTS

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| RS232 Interface | £47 |
| 16K RAM Datapak | £19 |
| 32K RAM Datapak | £34 |
| 64K RAM Datapak | £79 |
| 8K RAM Datapak | £12 |
| Organiser II CM (8K RAM/32K ROM) | £99 |
| Organiser II XP (16K RAM/32K ROM) | £139 |

### ATARI ST PRODUCTS

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| 0.5Mbyte upgrade kit for Atari 520ST | £110 |
| Atari SH204 20Mbyte hard disk unit | £620 |
| Cumana CCA2000S twin 5.25/3.5 DS disk drive | £339.95 |
| Cumana CDA358 dual 1.0M disk drive | £269 |
| Cumana CSA354 (1.0M) disk drive | £139 |
| Logikhron clock module | £45 |
| SF314 disk drive (1.0M) | £190 |
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| SM125 monochrome monitor | £100 |

### AMSTRAD PC PRODUCTS

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| 128K RAM upgrade | £30 |
| 20 Megabyte hard disk + controller card | £399 |
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| Hard disk backup unit (including cartridge | £530 |

### SPECTRUM PRODUCTS

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| 4 Microdrive cartridges | £7.50 |
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| Cheetah Sound Sampler | £49 |
| Extender & reset button | £4.50 |
| Microdrive extension lead | £5 |
| Microslot (2 way adaptor for expansion port) | £6.95 |
| Midi interface | £49.95 |
| Mouse & OCP Art Studio | £59 |
| Multiface 1 (tape to tape/disk/wafa/cart) | £39 |
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### ATARI ST SOFTWARE

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| Typing Tutor + Word Invaders | Academy | £31.45 |
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| Basketball 2 on 2 | Activision | £22.50 |
| Little Computer People | Activision | £31.50 |
| Paintworks | Activision | £31.45 |
| Shanghai | Activision | £22.50 |
| The Music Studio | Activision | £26.95 |
| Strip Poker | Anco | £17.95 |
| Tee Up | Anco | £13.50 |
| CAD 3D | Antic | £45.00 |
| C.O.L.R. Object Editor | Antic | £26.95 |
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| Maps Vol. 1 for above | Antic | £22.50 |
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| Fast Comm | Atari | £45.00 |
| Joust | Atari | £27.00 |
| Degas | Batteries Inc | £35.95 |
| Degas Elite | Batteries Inc | £72.00 |
| Thunder | Batteries Inc | £35.95 |
| ST Accounts | Chipsoft | £155.00 |
| Back Pack | Computer C | £45.00 |
| Fast Back | Computer C | £81.00 |
| Fast Basic Run Time | Computer C | £13.50 |
| Alternative Reality | Datasoft | £22.50 |
| International Karate | Eidersoft | £18.00 |
| Pro Sprite Designer | Eidersoft | £36.00 |
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| Starglider | Rainbird | £22.50 |
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| Book Keeper | Sage | £102.50 |
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| Trimbase | Talent | £81.05 |
| Zkul/West | Talent | £22.50 |
| Printmaster Art Gallery 1 | Unison | £26.95 |
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| Championship Wrestling | US Gold | £22.50 |
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| Leaderboard Tournament | US Gold | £8.95 |
| Rogue | US Gold | £22.50 |
| Silent Service | US Gold | £22.50 |
| Spiderman | US Gold | £17.95 |
| Super Cycle | US Gold | £22.50 |
| Super Huey | US Gold | £18.00 |
| Temple of Apshai Trilogy | US Gold | £22.50 |
| Winter Games | US Gold | £22.50 |
| World Games | US Gold | £22.50 |
| VIP Lite | VIP | £89.95 |
| VIP Professional (text) | VIP | £175.00 |
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### IBM/AMSTRAD PC1512 ACCOUNTING SOFTWARE

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| Financial Manager | Camsoft | £135.00 |
| Payroll | Camsoft | £45.00 |
| Bookworker | Compsoft | £179.00 |
| Easy Accounting | DAC | £98.00 |
| Easy Mate | DAC | £52.00 |
| Easy Tutor | DAC | £31.00 |
| Integrated Accounts | MAP | £135.08 |
| Sales Ledger & Invoicing | MAP | £45.00 |
| Sales & Marketing | MAP | £90.00 |
| Magic | MAP | £90.00 |
| Nominal Ledger | MAP | £45.00 |
| Purchase Ledger | MAP | £45.00 |
| Stock Control | MAP | £45.00 |
| Payroll | MAP | £45.00 |
| MapSpec (SSP system) | MAP | £45.00 |
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| Purchase Order Entry | MAP | £63.00 |
| Job Costing | MAP | £89.00 |
| Book Keeper | Sage | £102.50 |
| Accountant | Sage | £154.00 |
| Accountant Plus | Sage | £206.00 |
| Financial Controller | Sage | £269.00 |
| Payroll | Sage | £102.50 |

### BUSINESS PRODUCTIVITY

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| Homebase | Amber | £63.00 |
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| One Up | Compsoft | £45.00 |
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| Ability | Migent | £106.00 |
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| Deskset | Sage | £71.50 |

### COMMUNICATIONS

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| Chitchat inc Modems | Sage | |

### DATABASES

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| Cambase | Camsoft | £45.00 |
| Cardbox | Caxton | £54.00 |
| Condor 1 Junior | Caxton | £90.00 |
| Superbase Personal | Precision | £81.00 |
| Delta 4.3 | Compsoft | £90.00 |
| DAC-Base | DAC | £49.00 |
| Retrieve | Sage | £105.00 |
| GBase | SPI | £90.00 |
| SSI Data | SSI | £202.50 |
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| Flying Start | Mitra | £43.00 |

### ENTERTAINMENT SOFTWARE

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| Borrowed Time | Activision | £18.00 |
| Mind Shadow | Activision | £18.00 |
| Music Studio | Activision | £22.50 |
| Portal | Activision | £22.50 |
| Shanghai | Activision | £18.00 |
| Tass Times | Activision | £18.00 |
| Alex Higgins Snooker | Amsoft | £18.00 |
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| Flight Simulator | Microsoft | £45.00 |
| Flight Simulator/Jet Scenery Disk 3 | Microsoft | £18.00 |
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| Super Sunday | Nexus | £20.88 |
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| Boulderdash 2 | PC Leisure | £9.00 |
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# ADVENTURE PLAYGROUND

Mike Gerrard surveys the current state of adventure help services.




HELP! No, that is not a plea, it is the subject of this month's column. It is something we all need from time to time but it is often difficult to know how best to help someone stuck in an adventure. Should you give an outright solution, a clue, no help at all, or what? Does asking for help take away the satisfaction of completing an adventure for yourself? Should software houses provide solutions or hint sheets to their products and should they charge for them or be obliged to provide them as part of the service when they do not do the same for arcade games?

What prompted those thoughts initially was some correspondence I had with Rainbird and Level 9 about the question of help sheets for the two Level 9 trilogies Rainbird had published, *Jewels of Darkness* and *Silicon Dreams*. When the adventures making up the trilogies were published originally individually, Level 9 provided a free hint sheet in exchange for a stamped addressed envelope and a coupon cut from the packaging as proof of purchase.

The help sheets are among the best available, as they are professionally-produced and tend to list the problems alphabetically under such headings as People, Places and Objects. By adding a few spurious clues for good measure, and breaking down the answers to problems into more than one part, it ensures that if you look up the answer to something which really has baffled you, you are not likely to read about something accidentally in a section of the game you have not reached. Some of the spurious clues are amusing, incidentally, and if you have finished, or given up on, a Level 9 adventure, the help sheet is often worth reading in its own right to try to find them.

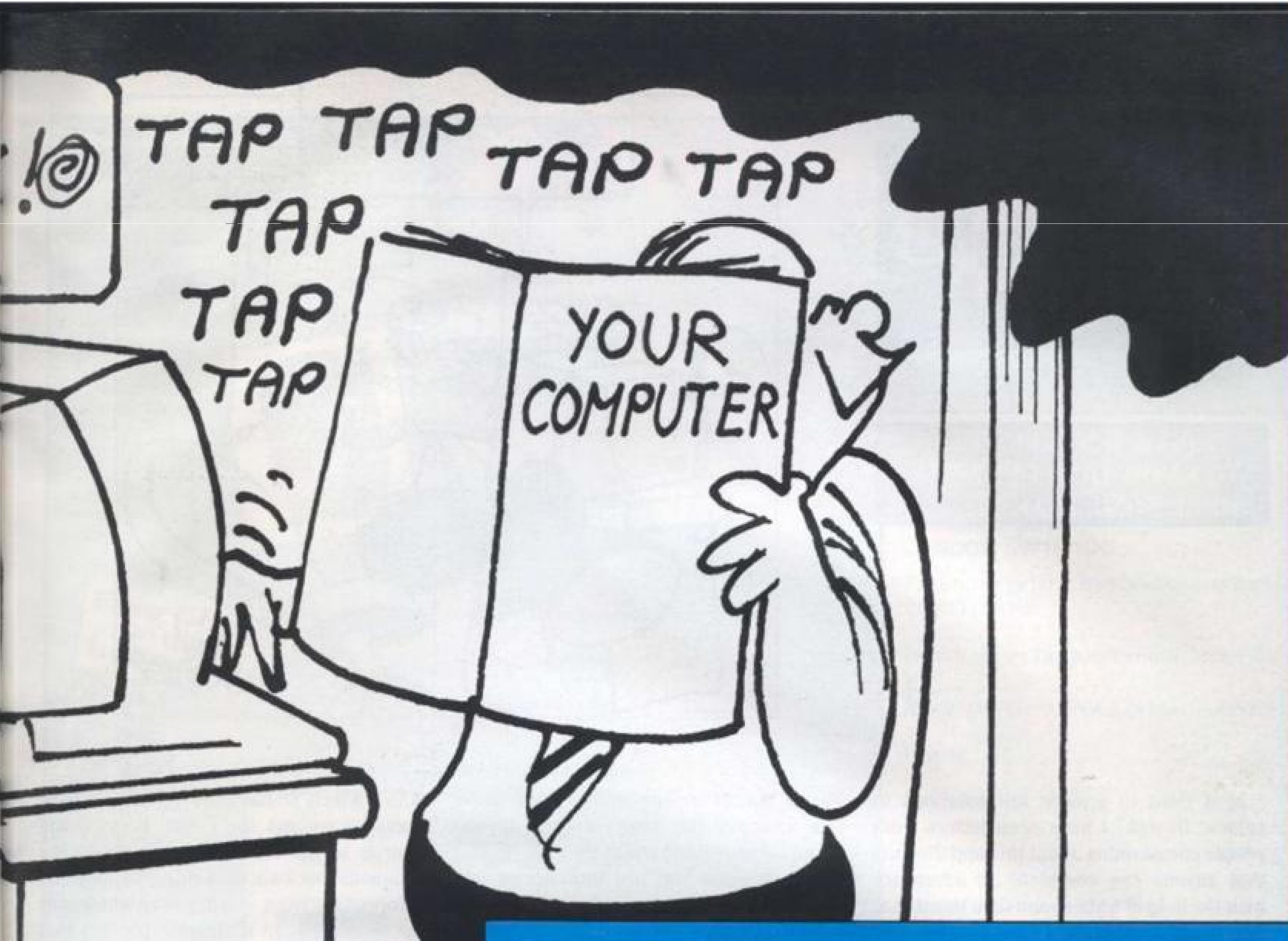
Now, enter Rainbird. In re-packaging the individual games as two trilogies, Rainbird decided to continue the service of providing help sheets but instituted a charge of £1. Putting the question of the £1 charge aside for one moment, the trouble began when Rainbird discovered that the help sheets would have to be re-written to take account of some minor changes in the adventures, some of which had been expanded slightly, and with the changes taking longer than anticipated to make, and subsequent printing delays as well, it explains why I received several irate letters from readers who had sent their sovereigns and received nothing in return.

Rainbird assures me that everything is now in order and the problem will not arise again. It says it sent hundreds of photocopies of old hint sheets while awaiting the new ones, though that does not explain why some readers who sent follow-up letters containing a second stamped addressed envelope did not receive replies. I had to write twice, as my first letter "must have been mislaid". Still, mistakes happen and we have to believe that Rainbird is in the business of trying to please its customers rather than antagonise them.

What is noticeable is that when I also wrote to Level 9, I received instant replies to my first letter, one from Pete Austin and another from C. E. Austin, both confirming that Level 9 will still send sheets free to anyone who wants them and can provide proof of purchase. I then received a follow-up letter from Pete Austin, who went into the economics of providing help sheets and that makes interesting reading.

If Level 9 was to charge £1, he says, then out of that the following would have to be paid – VAT of 13 pence to Customs and Excise, 12 pence bank charges for paying-in the cheque, 18 pence if providing first-class return postage, two pence for the cost of the envelope – assuming customers were not expected to provide a s.a.e. in addition to the £1 – and perhaps 20 pence to cover the time and cost of addressing the envelope, banking the cheque or postal order, entering the transaction in the company books. That leaves a 'profit' of 35 pence on the transaction and, as Austin says, that is without taking into account the inevitable problems of bouncing cheques, unreadable addresses and so on.

"The only real saving I can see," he wrote to me, "is in dissuading people from asking for help. This is very debatable, because a clue service provides an effective means of advertising. If you put in a catalogue with the clues, people are more likely to buy another game if they are helped to finish the first. There is no doubt that providing a good clue service costs a good deal but this has to be budgeted to advertising and goodwill, as direct charging is of little help unless you ask for more money than many people are willing to pay.




"IMAGINE PLEASE OF CHEATING AT AN GAME E S THE PLEASURE OF SOLVING IT F URSELF . . ."




"EVEN THE MOST DEDICATED AND PERSISTENT ADVENTURE PLAYER HAS TO ADMIT DEFEAT ON A PROBLEM SOMETIMES."

Level 9 have been giving free clues for years and one can only hope that more publishers will see the logic of doing likewise."

I do not know what you think but I heartily agree with Austin and his company's good reputation among all the adventure players I know is due to that helpful attitude, as well as to the excellence of its games.

Obviously Level 9 asks for proof of purchase before providing help on its adventures, as the problems of piracy are bad enough without having to spend further time and money in explaining how to solve the game to people who have stolen a copy in the first place.

In offering a helpline service, as I do via *Your Computer*, I am often asked questions about Level 9 games. At first I used to answer them as there is really no way of knowing whether what someone tells you is true or not. "I bought the game second-hand in the local market and there was no coupon with it", or "I don't want to write to Level 9 for a full solution sheet as I know I will not be able to resist the temptation to look at it as soon as I am stuck on anything." Instead of continuing to give readers the benefit of the doubt, though, I am now more inclined to suggest that they write to Level 9 for its solution sheet if the game has been acquired genuinely.

As part of the *Your Computer* helpline service, by the way, there are help sheets available for several difficult adventures, and these are available from me c/o *Your Computer* in exchange for a stamped addressed envelope. You should write initially and ask for a list of what is available, as I add to it constantly.

# ADVENTURE PLAYGROUND

"IT IS OFTEN DIFFICULT TO KNOW HOW BEST TO HELP SOME PEOPLE . . ."




Is it right to provide full solutions to games, though? I have seen letters from people complaining about this and they say that anyone can complete an adventure with the help of a sheet and then boast that they did it themselves. I think that is a fair enough comment among teenagers, where there will often be fierce competition to see who can be first to complete the latest adventure release, but it will not stop me handing-out full solutions to games if people ask for them and I have one available.

Many adventures are very expensive and if you have just paid £9.95 or £14.95, or even only £1.99 for a game, I believe you have a right to play it any way you please, including cheating if that is what you want. I doubt if many people cheat at adventures and even if they do then it is no business of mine to prevent them doing it, though I cannot imagine the pleasure of cheating equals the pleasure of solving for yourself.

Sometimes, though, even the most dedicated and persistent adventure player has to admit defeat on a problem and helplines and clue sheets are there for that reason, too – not just to help those who might give up after 10 seconds. As well as the fact that one person's dilemma is another person's doddle, there are also occasions where it is the program rather than the player at fault.

Some programs are so fussy that I was even having difficulty recently solving a problem I had already solved. The game was *Heroes of Karn*, which I had played and solved years ago in its Spectrum incarnation, spurred by the pleasure of trying to see as many of Terry Greer's wonderful graphics as possible. It was converted recently for the Amstrad PCW with no graphics but enhanced text and I was playing it with a mixture of memory and crib sheets mainly to see whether the game was basically the same in case anyone asked me questions about it.

At one point you are imprisoned and have to give something to the guard to get out and I did that and in my mind was halfway through the cell door when I realised my previous input had not been accepted. I tried giving other objects to the guard, I tried starting again to see if I had missed anything, and eventually I turned to one of the adventure fanzines I recommended last month and found a solution to Heroes of Karn. Then it dawned on me what was happening. I was typing "give [object] to guard" and what I should have been typing was "give [object] to Guard". If you did not provide the Guard with the honour of a capital letter as well as the object he wanted, the program did not respond, and then I remembered the same nuisance with the Spectrum version first time round.

I tried different inputs on the PCW version, such as "GIVE [OBJECT] TO GUARD" and "Give [object] to Guard" and nothing worked except the one version the program had been coded to accept. On its own that is maddening enough but doubly so where you have to start the sentence with the lower-case letter yet provide an upper-case one part-way through. That is one of the reasons we have helplines and clue sheets.

Another is to help people like Alan Robinson of Birmingham, whose letter asking for help on *Zork I* was printed in the May issue.

Anyway, for reasons which will be obvious to anyone who has ever been there, Robinson wanted to leave Birmingham and go through the entrance to Hades and into the Land of the Dead but he was having trouble, despite having found a coffin, sceptre, scarab, a bell and a prayer book, which wisely he had read. By that stage he should have put the coffin, sceptre and scarab in the case. I now resort to the infamous backwards writing to hide the information from unwary eyes which may not want to read it, despite the fact that this plays havoc with my spellcheck program. Anyway, take with you KOOB DNA SELDNAC KOOBHCTAM LLEB EHT. At the Entrance to Hades, KOOB DAER/HCTAM HTIW SELDNAC THGIL/HCTAM THGIL/SELDNAC TEG/LLEB GNIR/SELDNAC PORD. That should enable you to go IN. Or NI, if you prefer to work out the command for yourself.

Robinson discovered adventures only recently and it is obvious from his letter that his first choice of one to play, *Wishbringer*, proved to be a good buy – definitely good for Infocom, as he now joins the ranks of those who are addicted to its adventures.

Still on the subject of help in its many forms, another reason for providing a helpline service, clues and complete solutions is to benefit those new to adventures. I have received letters from readers telling me that they are stuck on their first adventure and feel they might not buy another if they continue to get nowhere with the first one.

Often they have opted to start with one of the many very difficult adventures. A clue sheet can provide them with a nudge in the proper direction, helping them round the thorniest problems until before long they are solving adventures without the aid of a safety net.

If you have requests for help, or clues to give, any comments on helplines or solutions, or just on adventures generally, then let us be hearing from you at Adventure Playground, *Your Computer*, Greencoat House, Francis Street, London SW1P 1DG.

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# LIGHTS, JOYSTICK, ACTION!

● Below: a great deal of planning went into Cinemaware's SDI




A NEW RANGE OF GAMES EXPLOITS THE GRAPHIC POSSIBILITIES OF THE AMIGA TO CREATE WHAT AMOUNT TO INTERACTIVE FILMS. DANIEL McGRATH DODGES THE MISSILES AND GRAPPLES WITH THE POLITICS



● Above: Every screen of these games is a marvel of graphics

Looking at the computer games industry, one of the more obvious criticisms is the lack of imagination and flair put into the games. As each generation of machines becomes established, programmers learn more and more how to take advantage of the power of them but still produce games which, although superficially enjoyable, lack any great depth.

What is a surprise to many games players in the U.K. is how well apparently simple games sell in the U.S. Games such as *Archon* and *The Bard's Tale* are technically simplistic when compared to the latest Braybrook or Minter blast but, however annoying they may be as a race, the Americans are far better than the British at spotting a good game hidden by unimaginative sound and graphics. Many American companies which are achieving such success in the U.K. are doing so by revamping games which have already been successful in the States.

Having said that, imagine an American software house which is dedicated to producing games of the highest standards, both technically and creatively, and has decided on the Amiga as the machine on which all games will be originated, although conversions on to lesser machines such as the Atari ST have been undertaken, to a mixed reception.

Cinemaware is such a software house. Started in 1986, the team behind Cinemaware had all been involved with the Amiga since its black-box days and were convinced that a machine of such enormous potential could not possibly fail. With that confidence behind them, they approached Mindscape, one of the top U.S. software houses responsible for such classics as *Deja Vu* and *Uninvited* and told of their plans.

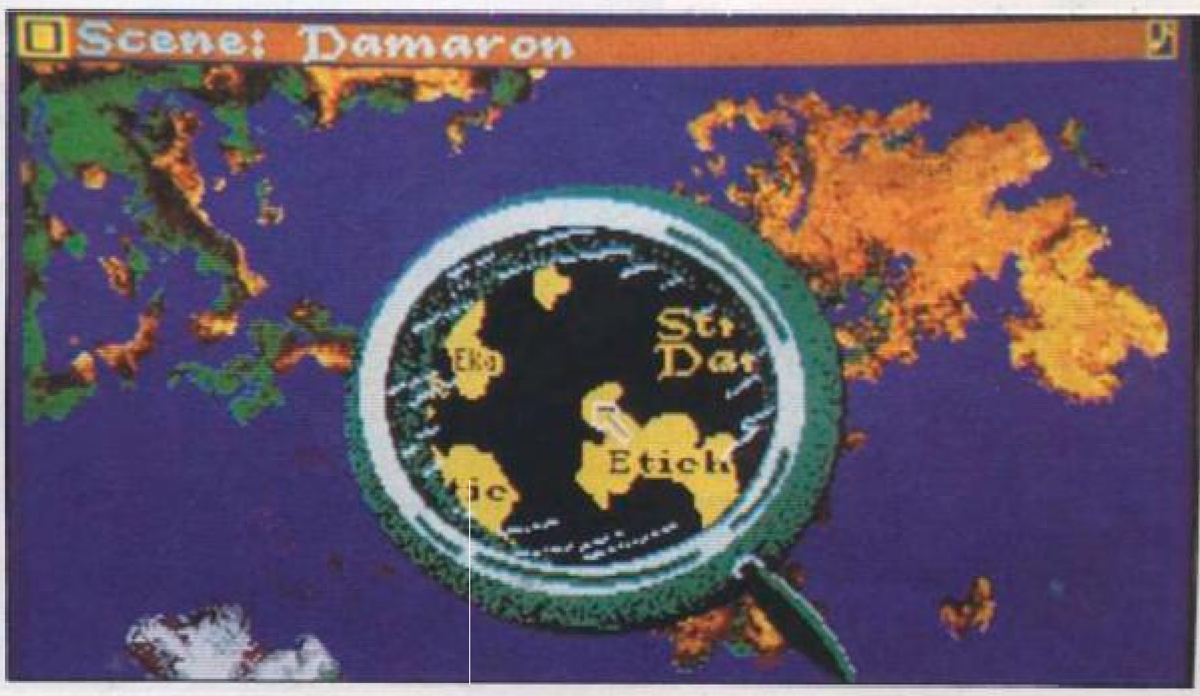
Mindscape, not wanting to miss a golden opportunity, immediately promised backing and a software house was born. To make the impact intended, it knew its first game must be




● Right: the scenery in *Sinbad* is wonderful and you can shoot anything which moves across it



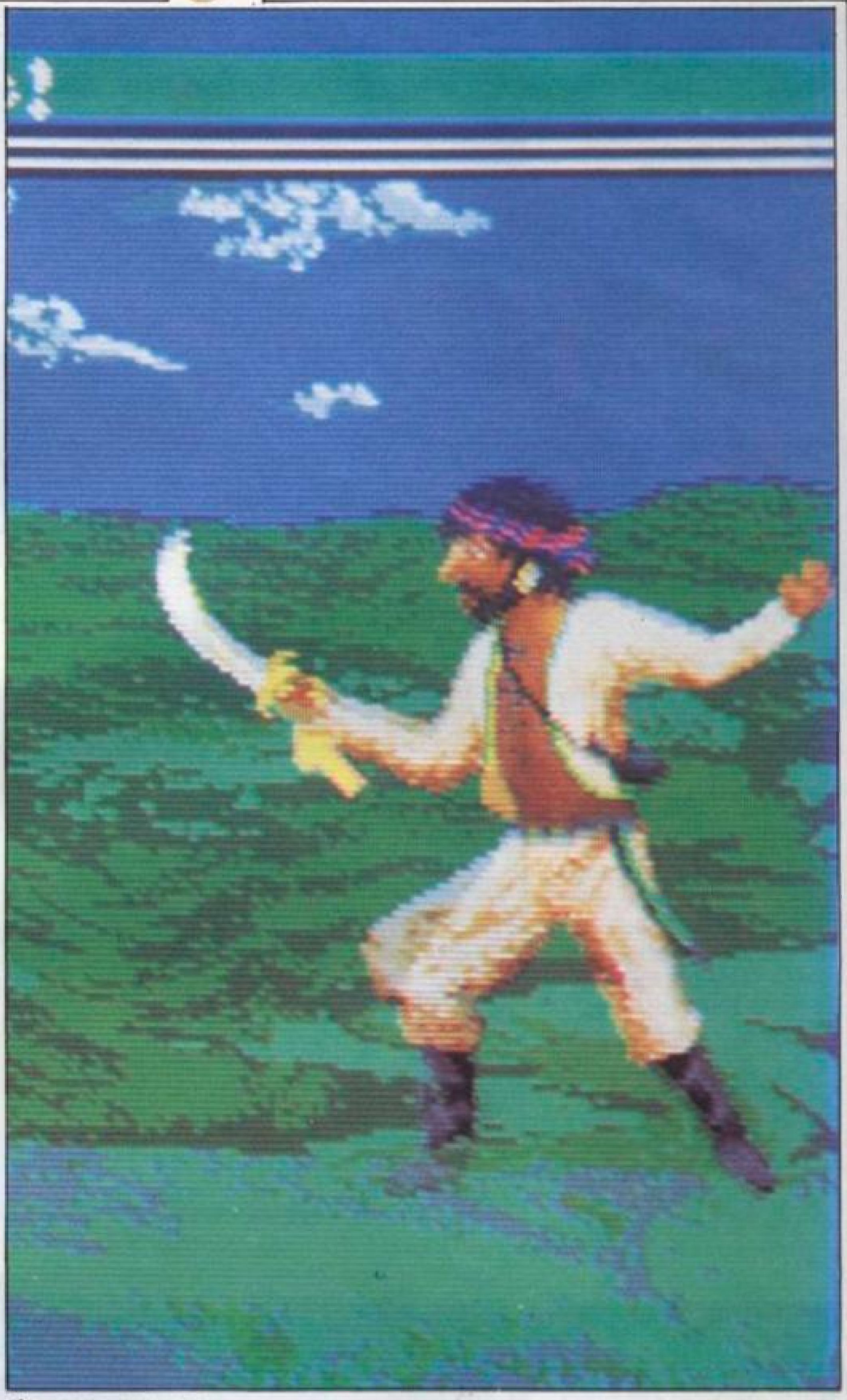

● Right: "SDI makes Attila the Hun look mildly opinionated"




● Right: Sinbad sails the seas in search of adventures and the Throne of the Falcon

so good that it would establish the company as *the* Amiga games house, and hence *Defender of the Crown* was commissioned. Regular readers of *Your Computer* will already know about DOC but suffice it to say that if it were a Hollywood film, it would have starred Eddie Murphy, Dan Akroyd, John Belushi – if he were still alive today – and Dustin Hoffman.

It is a medieval drama set in England in the early eleventh century where the player takes on the role of a Saxon hero determined to compete against the Normans in a land rife with battles and conflicts due to a recent civil war.



## Graphics

The game was programmed by R. J. Mical who, among other things, was wholly responsible for the creation of the Amiga graphics chip. Having harnessed the power of the machine, Mical enrolled James Sachs to create the graphics and together they produced a game which will be remembered as the one which established the games-playing ability of this machine.

Defender of the Crown sold exceptionally well. Almost everyone who owns an Amiga will have played the game and Commodore U.K. uses it regularly, perhaps misguidedly, as a demonstration of the power of the Motorola 68000-powered Amiga.

However good DOC was, there were problems. First, it became increasingly obvious that both Mical and Sachs had commitments to other software houses and were therefore unlikely to write another Cinemaware game and, second, the public was starting to clamour for a follow-up.

Contrary to the comments, the next game was not a complete washout, a fact which was again reflected by the almost universal praise it received. *Sinbad and the Throne of the Falcon* is based, as its name suggests, on the exploits of the legendary Sinbad and follows his path from earliest travels until, if all goes well in the game, you are rewarded by the recovery of the Throne of the Falcon.

● **Whatever happened to peace, love and understanding? Above: Sinbad the sailor in swashbuckling form; Below: the all American hero of SDI prepares to blast the commies from the sky**



## Entertainment

As with all Cinemaware, Sinbad is classified as adult entertainment. Realistically that means that in all the games so far released, the authors have decided misguidedly that as well as a plot and a game, they should include a dose of mild titilation for good measure. Unfortunately that degrades the authors and the company. That criticism apart, Sinbad is a good example of a much-over-used phrase. Read the packaging of any recent game based on an imaginary character and somewhere it will say 'interactive fiction'. Sinbad, on the other hand, is close to achieving what so many authors have spent years trying to perfect.

The game combines the usual level of graphics with a game structure which allows the player to participate in almost every step he makes. If Sinbad meets a character who is not immediately aggressive, he can extract relevant information

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**7. What kind of computer do you use?**

a) Apple Macintosh ☐
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**8. Which of the following peripherals do you use or intend to buy in the next 12 months?**

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|---|---|---|
| a) Dot Matrix printer | ☐ | ☐ |
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| d) Disk Drive | ☐ | ☐ |
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| | USE | INTEND TO BUY |
|---|---|---|
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| g) Educational | ☐ | ☐ |
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| | | | | | |
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**11. How much money do you intend to spend in the next 12 months?**

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**If YES, what was the last item you purchased and its approximate value?**
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4

## "The obvious criticisms to make are of an ethical nature. Once more the people at Cinemaware have gutterised a good idea."




- Left: from space you can see the whole of the free world;
- Below: an agonising choice for Sinbad




through conversation. Care must be taken, however, not to antagonise certain potential friends or death becomes all too frequent.

## Rambo

Joystick buffs are also catered for with a fair amount of fighting screens, both against competitors for the Throne of the Falcon and more ideosyncratic enemies, such as a 40ft. cyclops. Actions screens are another supposed reason for the adult classification but for a generation reared on Rambo, a few gallons of red pixels can scarcely be regarded as disturbing.

Overall, Sinbad is another step in the right direction for Cinemaware. It lacks the absolute level of programming skill which went into Defender of the Crown but, to counter that, it is much more interesting and challenging. It is also one of the first products on the Amiga, game or not, obviously to exploit the machine's multi-tasking abilities as, while Sinbad is bravely fighting-off the Black Prince, the computer is busily loading either a new screen or, if you lose the fight, your final rites.

If Sinbad is too old-fashioned for you, the next release from Cinemaware will bring you back sharply to the immediate future. Based extremely loosely on the proposed Star Wars technology the U.S. is developing, *Strategic Defence Initiative* is a piece of software so politically unsound it makes Attilla the Hun look mildly opinionated.

If you can manage to dig your way through the pages of propaganda, the game is as immediately attractive as anything I have ever seen. The loading sequence, complete with orbiting space craft and spinning earth puts the humble graphics used on Sinbad to shame. Having also seen the Atari ST version of the game – the first conversion undertaken of one of its games – I can vouch for the fact that it remains faithful to both graphics and, unfortunately, plot.

The aim in SDI is to prevent a nuclear holocaust which those insane commies in Moscow cannot resist starting. Your desire for world peace is fuelled further by the fact that your true love, who happens to be a Russkie, is at that moment being tortured by, to quote the packaging, "a barbaric KGB torture squad". What could any self-respecting American citizen do but attempt to rescue her from a fate worse than death?

## Playable

As the third in a series, SDI has, in technical terms, managed to keep the standard remarkably high. It is the first of the three games to include a inane shoot-'em-up section but that is not necessarily a bad thing, especially when it is as playable as this is. As well as that it has, in common with both previous games, an element of strategy which prevents even the most dextrous player becoming bored too quickly.

As with both the previous releases, the obvious criticisms to make are of an ethical nature. Once more the people at Cinemaware have gutterised some good ideas to maintain a reputation which, realistically, it does not have. If, as has been mooted by people in the U.S., the games start moving away from those ideas things can only get better.

Those reservations notwithstanding, Cinemaware is a genuinely novel approach to an industry which has begun to fade from the position of technical innovation it had managed to build. All the games produced so far have excelled almost anything else released for the Amiga, with the notable exception of *Starglider*, and they bode well for the games which will start to be produced when the A500 finally reaches the mass market.

The idea of producing a game which is, in effect, a film in which the viewer can take part is still a long way from complete realisation but the first steps have been taken and the correct machine chosen. The next game, *King of Chicago*, will, if the rumours are true, improve on all before it, in which case it will be something really special.

### Contacts

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Illinois IL 60062, U.S.A.
Mirrorsoft,
Maxwell House,
Worship Street, London EC2.

# INTO ORBIT

## IS SPACE THE FINAL FRONTIER FOR COMPUTER GAMES? WITH SPACE MAX YOU CAN LAUNCH YOUR OWN SPACE STATION. LISE FREY CHECKS THE O-RINGS






Space MAX
PC compatibles with CGA/EGA
Publisher: Final Frontier Software

When the manual for a piece of software starts with the warning that 'The safety of crew members and the security of high-value resources depend on your thorough understanding of the material in this document', you know that the author is either very serious or totally out to lunch.

I incline towards the latter view, but I *mean it is a compliment.* Space MAX might look like any ordinary space station construction simulator, but it isn't. Oh no. That would be too easy.

The program covers everything to do with building a space station, right down to the choice of in-flight music. It's modelled very closely on the NASA plans, using the Shuttle to ferry equipment and personnel into orbit and back again. But there is a lot of work to do before lighting up the rockets.

You take the part of a company landed with the task of building the station within a certain time period and for a fixed, if generous budget.

Everything has to be planned. What equipment are you going to use? Who is going to be your crew? The load aboard each flight needs to be finely balanced between materials for the station and income earning payloads, as you have contracts with eight companies to produce materials in space.

Once you've put the project together there is still the task of launching, constructing the station – assuming you've already designed it – and coming safely back to Earth.

There are hazards at every stage. Selecting the wrong music might not be fatal, but screwing up the de-orbit burn can have severe laxative effects.

This isn't a game – it's too complex for that. *When I first saw the package I was* tempted to throw away the three disks and spend the rest of my life trying to understand the manual, one of the most entertaining books I have read about space travel and the Shuttle.

As you would expect from a Jet Propulsion Laboratory computer scientist, T L Keller has got all the fine detail right. It accurately simulates the operation of the Shuttle, and would probably have done the same with the space station had NASA got around to building it. A lot of the manual is devoted to background information, even down to the jargon.

Once you get to the software you will spend much of the time staring at menus and spreadsheet-like pages of data. There are graphics too – of the Shuttle and station. But although they're pretty and effective, on the whole they're subsidiary to getting things organised.

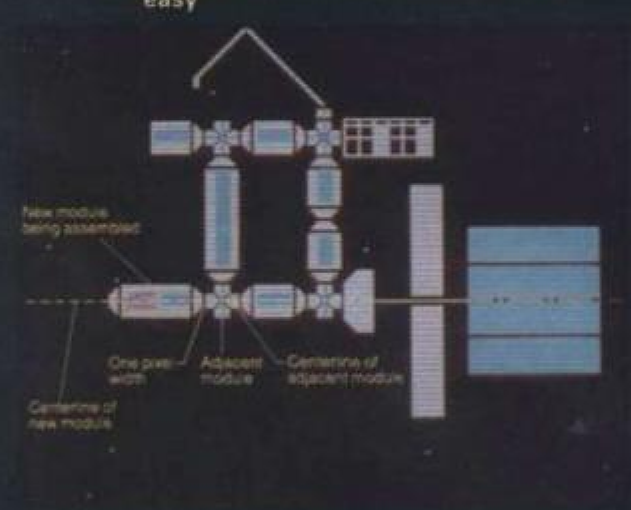
The system demands are reasonable – single, double-sided drive, CGA card and colour monitor. The author recommends that you use EGA, twin drives and a joystick. But I wouldn't worry too much. You'll probably spend most of your time reading the manual.

Lise Frey

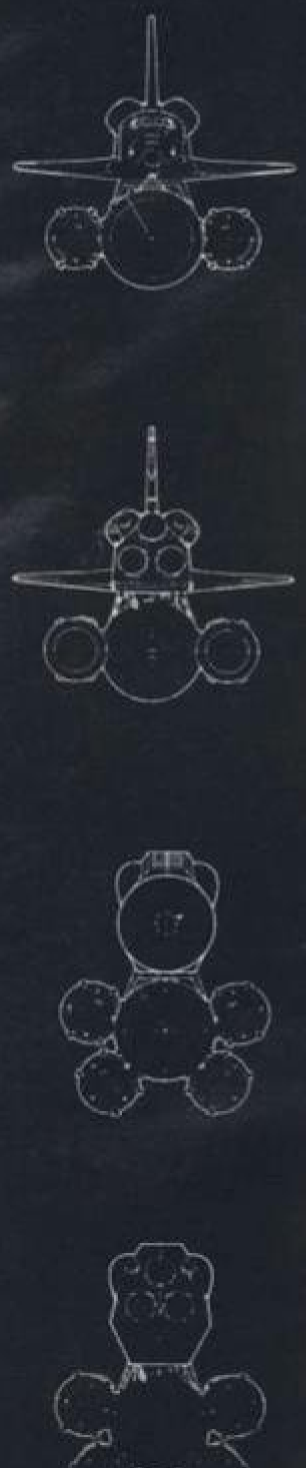
● **Below: This kind of manoeuvre is second nature when you've read the manual**



● **Below: Plenty of diagrams make it all so easy**

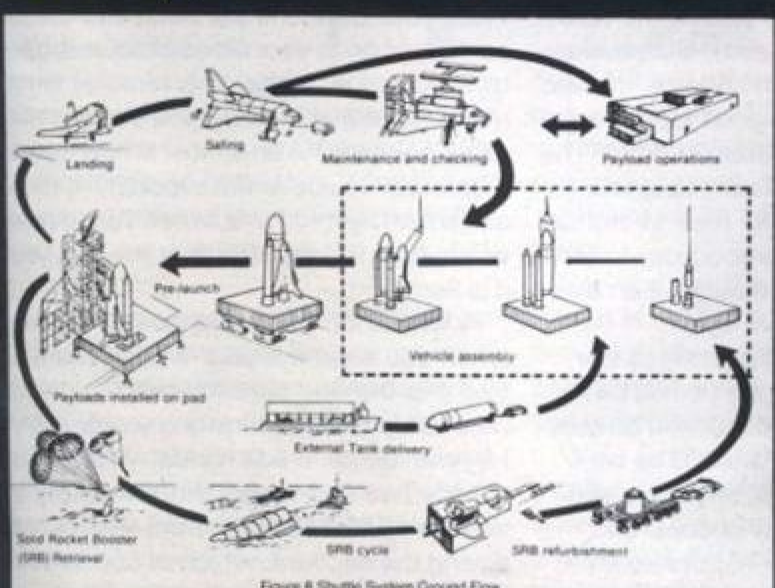


# SHUTTLE





● Below: There is more to space flight than lighting the blue touch paper



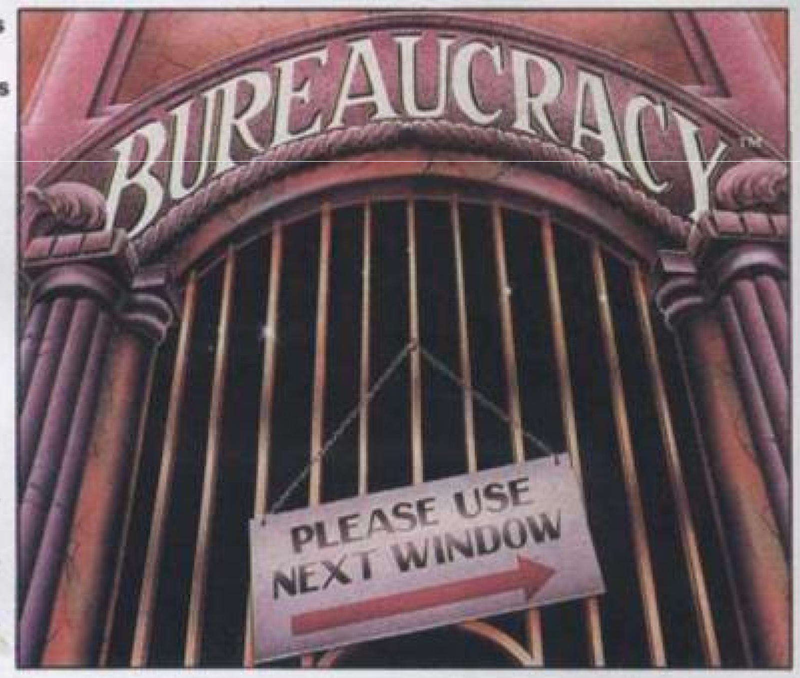

● Right: Learn to land with Space MAX



# PARA




● **Left: Is this form as innocent as it seems?**




## YOU WILL BE AFTER EVEN THE BRIEFEST OF ENCOUNTERS WITH BUREAUCRACY, DOUGLAS ADAMS' NEW GAME FOR INFOCOM. BANKS, AIRPORTS, AND EVEN LLAMAS ARE ALL OUT TO GET YOU. MIKE GERRARD FIGHTS OFF THE RED TAPE

Title: Bureaucracy
Price: £34.99
Machine: PC, ST, Apple II and Mac, PCW, Amiga and CBM 128
Publisher: Infocom

Do you remember the time your bank wrote to you inviting you to apply for one of its credit cards which you had already had for the last 10 years? Or when you received a telephone bill for 10 times more than you had ever paid before, and British Telecom insisted it could not be wrong? Or when the electricity board threatened to cut off your supply for not paying a bill when you could see the cheque debited on the bank statement? Well, if you have ever experienced anything like that and have managed to come out of it with your sense of humour intact, you will adore *Bureaucracy*. If you lost your sense of humour along the way, then perhaps you had better steer clear of this latest Infocom adventure in case it sends you screaming up the wall with the memory of it all.

The game is from the pen, or rather the micro, of Douglas Adams, the man whose name is destined forever to be found sharing a sentence, whether he likes it or not, with the words *The Hitchhiker's Guide to the Galaxy. Bureaucracy* had its origins when Adams moved home. He thought it a good idea to send his bank a change-of-address card. The bank thought it a good idea to ignore his new address and send mail to his old address. He thought it a good idea to send a reminder. The bank thought it an even better idea to ignore him again.

He thought it fairly important to tear them off a strip and to say he had been ignored twice but could material be sent to his now address in future? The bank thought it a good idea to apologise and grovel and note his new address and promise it would never happen again – and to send the letter to his old address. Bureaucrats always have the last word but at least Adams now has his revenge.

In the game you are in the same position. You have moved home, told your bank and everyone else and are about to go on holiday to Paris before starting a new job. What could possibly go wrong? Well, your new cheque book and credit card could go to your old address and, due to a computer error, the removal men might not arrive, leaving you starting the game penniless in an almost empty apartment. Can you be at the airport by 4pm to catch the flight to Paris, when your digital wristwatch – if you can trust it – tells you it is 9am?

A flavour of what is to come is given when you examine your wallet. You are told it is the one sent to you by a credit card company when inviting you to apply for one of its credit cards, which you already had and which simultaneously it was trying to take away from you for not paying the account, which of course you had done ages ago.

Right: Do they really make it easier for you?

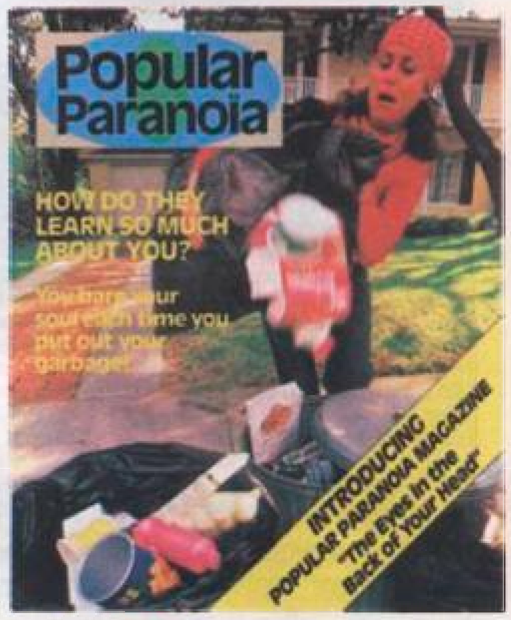



# ANOID

At least you have your Boysenberry computer for company, with an adventure game cartridge and an eclipse predicting cartridge, though the first one crashes and the second, it has to be said, is of limited appeal. Or is it?



- Left: "Here's your BANK STATEMENT, Ma'am"
- Right: Helpful reading matter is supplied with Bureaucracy




A man at the door is trying to deliver you llama food, to the correct name but the wrong address, and a message on your answerphone from the person in your old apartment tells you there was a letter for you from the bank but he has returned it. It was the change-of-address form the bank had required you to fill in, your own card not being good enough, and probably also your new chequebook and credit card.



- Left: "Let's not forget the CHANGE OF ADDRESS FORM, dear"

At the end of your street is your bank, usually closed, or about to close, but with an im-pressive number of cashiers, mostly displaying the sign "Try the next window". You cannot cash a cheque because you do not have your new chequebook. You cannot get another change-of-address form because only one can be issued at a time and that is in the post.

Your job is to try to return some kind of normality to your life. When you start to feel hungry you can always try the fast food restaurant, where it takes longer to order than it does to eat the wrong order when it arrives, though at least you can slip through the back door without paying.

Or perhaps you should keep the burger to feed the one-winged macaw which is preventing you getting your hands on the mail in the mansion next door? Well, the mail is obviously going astray so perhaps the cheque your new employers have sent you has been delivered to the wrong address?

Can the man in the computer shop help? He can offer you some rather dubious software and just when you think it will be the answer to your problems, it proves to be well, fairly revolting, and certainly not to be reprinted in *Your Computer*.

Can you get the mail from the llama's trough at the llama farm down the street, and what about the old lady sporting an ear-trumpet and a shotgun and keeping you out of the mansion?

Well, I have sorted her out, and the macaw, and the llama, and the man in the tenement, but I am now stumped by the intercom at the locked gate at the end of the street where a voice informs you that it has a radio connected to its brain and invites you to comment.

Shades of the intelligence testing door here but all my remarks have so far produced is "You can do better than that". Well, I mean, what do you say to someone who thinks a radio is connected to his brain?

*Bureaucracy* is the third of the big Infocom games representing 256K of text adventure, and the signs after a few hours of near torture are that if you buy this one you might not need to buy another adventure all year. In fact, there will not be a better adventure all year – it is as simple as that.

# ORGANISATIONAL NIGHTMARE

Ten minutes ago, I walked into my office after a Bank Holiday weekend which went on to encompass Tuesday. I should explain that the reason for this was simply that the weather was nice and the Wye Valley even nicer.

Tomorrow morning, I must be awake with the sparrows to catch a BAC 1-11 from Luton to Turin, where I shall spend a couple of days finding out if a new gearbox developed by Fiat is any good or indeed whether it, like the Sinclair C5, must be destined to life as a plant pot.

Sadly, I will have to forgo the delights of Sunday lunch in the country because that evening, Citroen have kindly invited me to spend some time with one of their new cars – quite which one escapes me at the moment.

After this, things get slightly muddled. I know I have a do on a Monday at the Churchill Hotel in the West End and I know I have an appointment at Harrods either on Thursday or Friday. Then there's a couple of days at Donington Race track near Derby where journalists are invited to thrash round in pieces of expensive machinery which no-one can afford to buy or run.

In between are mundane events like dinner parties, stories to write, washing machines to buy, birthdays to remember, films to see and ashtrays to empty.

But everything might have to be reorganised because, even as I write, I am waiting for Lamborghini to ring with a date for me to go to Monaco and test a 30 litre, 3,000 horse power offshore racing boat.

This will be one of life's great highspots. It will beat the onset of puberty. It might even beat that first kiss. My appetite for speed on water was whetted last week when I learned what it is like to accelerate a boat from 0 to 60 in 3 seconds. It is a great deal more interesting than *Terry and June*, that's for sure.

As a result, the Sword of Damocles is poised over everything I'm meant to be doing over the next fortnight.

It has to be said that I am a disorganised person, the kind who rolls up at back tie events dressed as a giant banana, and who'll miss a plane by hours and dinner dates by weeks. One reason for this is that I have never kept a diary. I've had thousands, well tens anyway, and there's always a flurry in January where I write everything down with a new, Wilbur Smith style resolve.

Unfortunately I never look at the thing to find out where I am supposed to be and what I am supposed to be doing when I get there. Alternatively, I lose the diary before I have the chance. There is little point leaving messages reminding me to do things somewhere where I will never see them. It's a bit like leaving a note in your fridge's ice box to say the fridge ice box door is broken.

A couple of years ago, someone very close to my heart bought me one of those leather notebooks which tell you what the King of Siam would have had for breakfast had he still been around. It's called a Filofax and yuppies use them a lot.

In two years, I have written seven things in it. Three of them are ideas for stories, two are phone numbers, both of which are my own so I know them anyway and two are meaningless doodles I did on the map of Cyprus when I reached new heights of boredom on an aeroplane. I have tried, believe me, I have tried to make the best of my Filofax, but when it comes to the crunch, I have to admit that I am a disorganised mess, a disgrace.



● **The Psion Organiser II**

Help may be at hand because I have discovered the Psion Organiser 2, which is even harder to say than it is to use. I thought only the French and the Welsh began words with a string of consonants but evidently, we English do too.

I also thought the Japanese had stolen the show in terms of miniaturisation. Evidently the Psion people aren't going to give up without a struggle because, if one judges a book by its cover, this little darling will revolutionise my entire being.

First and foremost, it is half the size of a Filofax, so it slips with all the finesse of a handkerchief into my Daktari style jungle shirt. Secondly, it is an electrical gadget, and I love electrical gadgets. Show me the latest in mini televisions and I just have to have one. Here speaks the only man in Britain who gets excited about fridges. I'm obsessed by things you plug in or feed with batteries.

Aesthetically, my Psion Organiser 2 is worthy of praise. Finished in pale grey and yellow, the body is attractive and the lcd is easily read at a glance. This means that whenever I whip it out, the assembled throng crane forward to a chorus of "oohs" and "aahs" and "can I have a gos".

This is where things start to go wrong, because, let's face it, we all know best and we all like pressing buttons, don't we? Well I do anyway.

To be more precise, I like pressing buttons a great deal more than I like reading instruction manuals. I had a good bash with Psion's Gettysburg address on how to make the '2' work but hyper boredom set in once I'd logged in my own address.

Then, as I went on discovering its multiplicity of functions, I forgot how to log addresses and more importantly, how to retrieve them to the screen again.

The next day, the most cloth eared imbecile in Christendom spent a few minutes playing with it down at the pub and, as far as I can work work out, reprogrammed the whole shebang. When I first got the functions on the lcd screen were simple to understand. After he'd had it for five minutes, it was talking less sense than a cornered politician on *Question Time*.

Turn it on and the screen said, Edward, BIA, Prog, Erase, 4 Crockerton Road, London SW18, Dir, Off, Time, Alarm. No matter what I pressed, it beeped. Evidently, there are two people in the world who prefer playing with things to reading about how they should be done properly.

Luckily I ran into a chap who has been using a Psion Organiser for some time and he was able to retrieve the find and save modes which, as I understand it, are pretty important.

He even gave me a verbal low down on what services our machines offer. Not only is his a complete address book but he also has everyone sub-divided into categories; those who play bridge, those who play tennis, good dinner party guests, lousy dinner party guests, prats, jerks and good guys.

Then, he showed me how to make the alarm facility work. His beeps to remind him what he ought to be doing which means he hasn't missed a plane for years.

He can even write down where he leaves his car at airports without losing the bit of paper and being forced, as a result, to spend three hours wandering aimlessly round Sussex wondering why all trees look the same as the one he parked under.

I am now in a state of deep training. Every spare moment is spent with my head burrowed in the good book discovering this new way of life. When I get to the bit where I can order it to massage my weary shoulders, you can be sure I'll let you know.

*Jeremy Clarkson*

# Chess nuts



## COMPUTER CHESS GAMES HAVE BEEN AROUND FOR A LONG TIME. WE LOOK AT NEW VERSIONS FOR THE ST

The Psion *Chess* game for the Atari ST, converted from the original Sinclair QL version, has set the standard by which other ST chess games must be measured. The latest challenger is *Techmate*, an American product from Szabo Software being marketed in the U.K. by Microdeal.

One of the strong points of the Psion game is its graphics, which offer the choice of either a two-dimensional or a stunning three-dimensional view of the board. The Szabo game sticks to a 2-D representation but is equally effective in this mode.

Pieces are shuffled round the board by clicking with the mouse, first on the piece and then on its destination. If you attempt an illegal move the monitor will produce a ping of protest, one of an arsenal of sound effects the program fires at you under different circumstances. The most annoying is a triumphal fanfare which blasts from the monitor loudspeaker whenever the machine checkmates you. You soon learn to turn the volume down.

Techmate differs from most other chess games, including the Psion version, in that you do not select levels of difficulty to decide the strength of opposition the computer will offer. Instead, Techmate offers the challenge of speed chess. It presents you with two digital clocks – one for you, the other for the computer – which count down to zero in steps of one second. Each clock operates only while it is waiting for its player to make a move. If your clock reaches zero before that of your rival, you lose – in theory, at least, as we shall see.

The default setting for both clocks is 300 seconds, five minutes for each player, but you can adjust either or both clocks to count down from a maximum of 9,999 seconds – almost three hours – per player. The clocks do not have to be set to the same value so that by giving the computer less time than yourself you can compel it to think faster and thus, with luck, to make more mistakes.

Conversely, if you are finding the software is offering little opposition, you can give it more time than yourself to think of more challenging moves. Unless you are an expert player you are unlikely to find yourself in that position. The game is fast and, too often, deadly.

The programmers thoughtfully have provided various means of avoiding the ignominy of being defeated by the computer. If, for example, your clock unsportingly reaches zero just as you are perfecting your killer move, you can re-set it to give you a few more seconds – or, if it will help, a few thousand more seconds.

Another option allows you to take back the last step or, if you are in dire trouble, as many steps as you need to correct matters.

If all the time in the world will not save you from a certain checkmate in the next move, you can swap sides surreptitiously so it is you who delivers the death blow to the hapless ST. You can also use that facility if you are stuck during a game to get the computer to suggest moves for you to make.

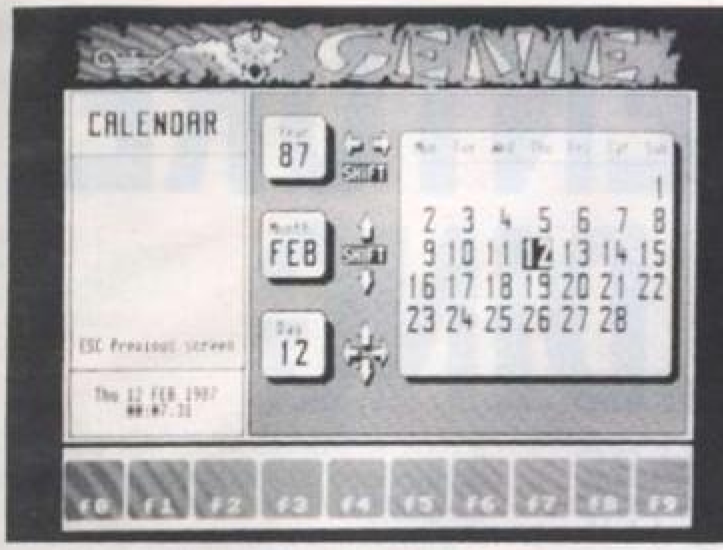
Unlike some chess games, including the Psion version, Techmate does not offer a collection of classic games for you to study. It claims, however, to "know" almost 700 openings.

The program does not provide a listing of the moves made during a game, either on the screen or as a printout. A more serious omission is that there is no way of saving a game or position to disk. There is a pause mode which stops the clock but if you are called away for any length of time and do not want to leave the computer running continuously you will either have to abandon the game or make a written note of the state of play at the time of suspension.

Arguably, because the strength of Techmate is speed chess, most games should be over so quickly that you will not need to save them, but that is no excuse for not providing a save-to-disk routine.

If you have a taste for the adrenalin-charged thrills of speed chess, Techmate could be the game for you. At £24.95, you cannot go far wrong.

Microdeal Ltd,
Box 68,
St Austell,
Cornwall PL25 4YB
0726 68020




# GENIAL SERVANT

**Genie**
**BBC B, B+, Master 128, Master Turbo, Master Compact**
**£80 (ROM)**
**Publisher: Permanent Memory Systems**

BBC Micro owners are often found gazing wistfully at adverts for the latest PC or Mac products – full of pop-up this or pull-down that. If only things like that were available for my poor memory-starved machine, they think.

Occasionally things do filter down. There are now desktop publishing programs, of a sort, and some reasonable business packages. But not until now has there been a product, inspired by something in the business sector, which can stand up alongside its 16-bit role model.

*Genie*, from PMS, is the equivalent of *Sidekick* for the Beeb. Ask the average Sidekick user about *that* product and you're likely to be treated to an effusive lecture on how life is impossible without it. Genie is likely to provoke the same response.

A clever feature of this product is that it has its own memory on board. Genie comes in the form of a sealed box with a length of ribbon cable terminating in a plug suitable for sticking into any sideways ROM socket. Your computer will think that it's just a normal 16K ROM. In fact, Genie also has 64K of RAM, half of it battery-backed.

Hitting Ctrl-Shift-G, or typing *GENIE at a system prompt, kicks the software into action. It copies the machine's main memory across into one of its 32K banks of RAM, and then uses the machine to run its own software.

The opening screen shows a menu and the message 'Your wish is my command'. Although this is rather irritating the rest of the package more than makes up for it.

To start with, there is an address book. The spaces for name, address, telephone number and so on are of fixed but adequate length. What's more, the names and phone numbers can be accessed on their own in a separate phone list.

There's a calendar which, if you're using a Master, reads the real time clock and automatically highlights the current date. You can flick through a day, month or year at a time.



The Master's clock is also used for the desk diary. This is a daily notepad. Selecting this option immediately brings up today's notes. If you are not using a micro with a clock, Genie will ask you for the time and date the first time you use it in a session.

The inevitable notepad is page-based. There is no scrolling or automatic flicking on to the next page. Switching between pages is a little awkward, but fast enough once you get the hang of it.

Naturally Genie also has a calculator – a useable one this time. There's no tedious pointing to the numbers you want with a mouse or cursor keys. You just type in the numbers and operators. The only things missing are hex and binary calculations, although you do get a useful set of conversion tables.

The real bonus is that your data is battery backed. The next time you come back to the machine your diary appointments and notes are all still there. The battery isn't user replaceable, but it should last at least five years, by which time you'll probably be using another machine, or Genie itself will have been superceded.

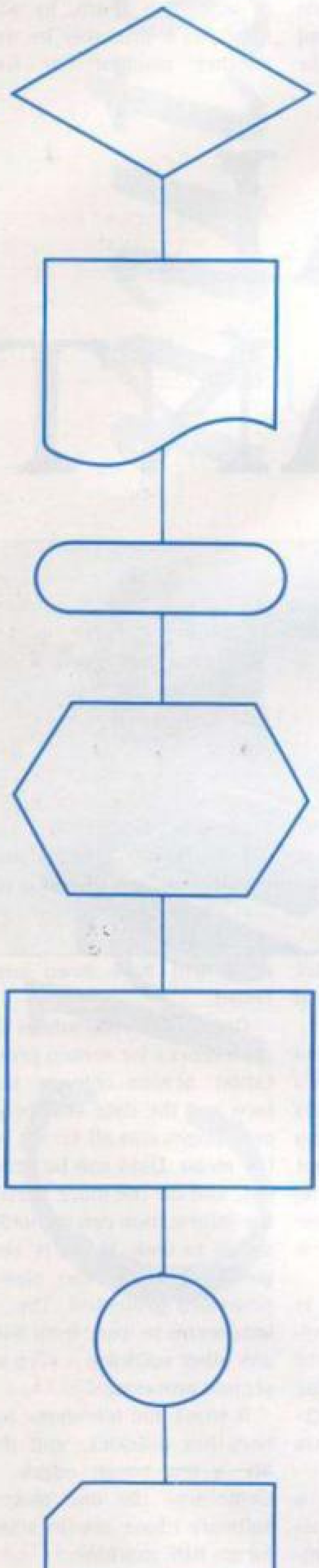
Genie even remembers your preferences for screen presentation. Screen colours, interlace and the date stamping of note pages can all be set from the menu. Data can be printed out, and for the more nervous, the information can be backed-up on to disk. If you're really paranoid, Genie can also be password protected. The system seems to work from within any other software – even with second processors.

It won't dial telephone numbers like Sidekick, and there are a few rough edges, but Genie was the one piece of software I have always wanted for my BBC machine.

Phil Rotsky



# ADVENTURE BUILDING



## PETE GERRARD GOES INTO THE SCREEN DESIGN OF YOUR DIY ADVENTURE GAME AND HIGHLIGHTS SOME OF THE PROBLEMS YOU WILL ENCOUNTER

After last month's excursion into the realms of programming and text compression, most of you will probably be relieved to know that we're not going to be doing too much programming this month. Instead, we'll be taking a look at theory rather than practice, including something that was mentioned in the May issue of *Your Computer* and then blissfully ignored in the June issue: screen layout.

You might have the cleverest adventure program in the world residing in your computer, a tour de force of programming, a wealth of exquisite machine code routines and impossible to understand (or follow!) BASIC subroutines, but this is to no avail if the display on the screen is one that will drive the player shrieking into a corner.

Look at the way the masters do it, and in this as in everything else Infocom must be our guides. Their programmes are, after all, the supreme stars when it comes to text-only adventure games, even if they did cheat a little bit in *Hollywood Hijinx* and display a map of a maze on the screen. At the top of the screen is what is called a Status Line, which tells you a number of things about the state of the game.

First you are shown your current position in the game, which is useful if you are stuck in a location for several moves failing to solve a problem. You could of course request a repeat description, but a quick glance to the top of the screen is so much easier.

Secondly, you are told your current score in depressing terms like three out of 400. If the game is one that requires a set of problems to be solved in a given amount of time, you might also notice the passing time in the top right hand corner of the screen. So, how can we emulate this status line, yet leave the rest of the screen free for the game?

With the room descriptions we obviously cannot display all of it. A location which might greet the player with the words: "You are standing just inside the old stables. The battered wooden door bears silent testimony to your barbaric entrance, and the dusty straw lying in heaps on the floor would suggest that no-one has visited here for quite a time. An all-pervading smell reminds you of the country around your home, and you long for freedom and liberty."

This can reasonably be compressed down to "You are just inside the old stables", or even better (for our purposes) "just inside the the old stables". Why should we choose the latter?

Well, in many games you will print up the detailed room description only when the player first encounters it. On a second or subsequent visit you could simply print up the message "You are" followed by the short description "just inside the old stables".

Other characters may be blundering about the place, and so one could use that same short room description to say something like "Wyatt Earp is" followed by "just inside the old stables.", should Wyatt Earp visit there for his own nefarious purposes.

Our western adventure had some 64 locations in it, so we need 64 short room descriptions. They might be read in like Figure One.

Of course, it would be a wise idea to dimension SD$ first! SD for Short Description, incidentally. Now, one could then file all these descriptions onto tape or disk, using something like Figure Two, or whatever filing system your particular computer uses. These could then all be read in by the main program, replacing PRINT# with INPUT#, and whenever the player reached a current position of CP, the short room description SD$(CP) could be used to tell the player where he is.

If you want to copy *Infocom* slavishly, you could move the cursor to the top left hand corner of the screen before printing SD$(CP), but do bear in mind that this is trickier on some computers than it is on others. Some machines let you set up windows, which makes it easy to stick all sorts of information up in the status line. Others require a little bit more cunning, perhaps

relying on storing the current cursor position, moving to the top of the screen and printing the message, retrieving the cursor position and moving back down to the bottom of the screen.

If you've played *Infocom* games you will have noticed that all the prompts for player input are at the bottom of the screen. This saves having to muck about with current cursor positions by just moving right down to the bottom of the screen after every update of the status line.

From long room descriptions to short room descriptions is but a simple step, but what about scoring and the passage of time?

In a quest that simply requires the collection of treasures, scoring is an easy task. The original *Colossal Cave Adventure*, awarded points for each treasure that was found and restored to its correct place in the well house at the start of the game. When enough treasures were found (and thus sufficient points scored) the player moved to the end game.

Most games now are more than simple treasure hunting expeditions. If you're going to include scoring it is probably best to award points for each problem that is correctly solved. If the game involves a mission, then solving every problem will very probably complete that mission, and so players get some idea of their progress. Never ignore the aspects of humour when keeping track of the score. In Infocom's *Leather Goddesses of Phobos* typing in the word *SCORE* guaranteed a suitably wicked response. That game informed you that your score had reached "6 out of, oh, let's call it 6546"; very demoralising.

I've seen adventure games that keep track of a football match, and *SCORE* only told you how well the game was going. Your own progress was forgotten. For the sake of our game we'll stick to a conventional scoring method and award the players marks out of 200, the score incrementing every time a problem is solved, but only the first time! Do try and keep track of that in your own adventures, because if Melbourne House can get it wrong then I'm sure you or I can.

Apart from scoring, Infocom quite often displays the time up there on the status line as well. On computers with concurrent or internal clocks, this is not difficult. On others, all I can suggest is that you scour the magazines for listings of clock routines.

Displaying the short room descriptions, the scores and the clock is not difficult. Use either windows or current cursor positions, allow fields of (say) 25 characters for the short descriptions, 9 for the score and 6 for the time, and do bear in mind the different ways in which the TAB or POS or SPC commands work on the various computers. You wouldn't want to tell the player that he was in front of a gaping quarter to six, now would you?

I have casually mentioned some of the words you are likely to encounter when playing or writing adventures. Now is the time to look in some detail at precisely how to arrive at a finished vocabulary list.

First common words. These serve two purposes: they make life easier for you, the writer, and more importantly, give the player a sense of familiarity. One of the often-voiced complaints about adventure games is that an unduly long amount of time is spent in searching for exactly the right word to use. Some programmers have a perverse sense of language. A familiar set of words ensures that the player doesn't spend too long trundling through the Thesaurus trying to find yet another word to use instead of "break", for example. We'll start by looking at some of those common words.

## Movement

Most of my adventures rely on the four compass points North, South, East and West, along with Up and Down, for movement throughout the game. You may care to use things like Port and Starboard, Rimwards, aaything, but if you're going to use anything out of the ordinary do remember to tell the player. We're not all expert navigators, or readers of *The Colour Of Magic*. So, any adventure of mine tends to start off with the following verbs:

```
1000  DATA nort,sout,east,west,up,
      down,n,s,e,w,u,d
```

bearing in mind that the parser given in the very first article in this series was only checking for the first four letters of a word. If you increase that to five or more you can use north instead of nort.

The single letter n,s,e,w,u,d are there purely for the player's convenience. Some people prefer to type GO NORTH, some prefer NORTH, lazy ones like myself would rather just type N! These twelve verbs (repeated as the first twelve nouns in case people do type GO NORTH, LOOK WEST or whatever) form the backbone of our game. What else?

## Save and Restore

Putting out an adventure without these features should be punishable by hanging. No game should be without them. If you want you can become slightly extravagant, and allow the player to save his progress to tape, disk, or RAM, allowing a number of different saved positions for each one, but whether or not you do this will probably depend on the amount of memory you've got left over when the game itself is complete. Personally when testing a game I just tend to have one save and restore position, usually to disk, and put in any other features at the end if (never!) there's any spare memory left. Incidentally, Restore is much better than Load, since (particularly in a western adventure) people will want to Load Guns, and few of us call a saved position by the name 'gun' even if we're allowed to.

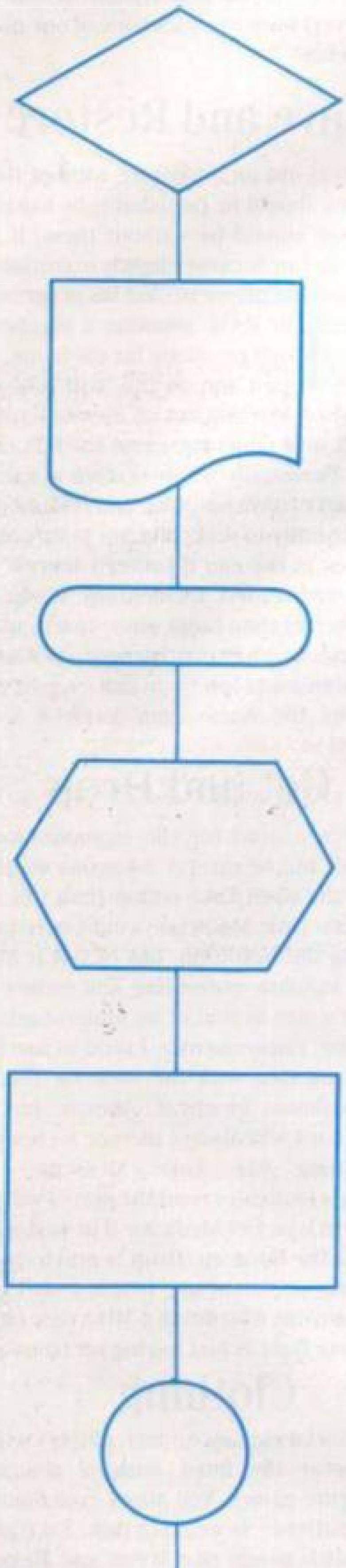
## Get and Drop

These are used for the manipulation of objects, but be careful. Someone might be using the word Take rather than Get, and to them Take Medicine would only imply picking the bottle up, but to you it might mean swallow everything and reduce the player's size to that of an undernourished microbe. Consequently, I tend to use both Take and Get, with the code for the two being almost identical. Almost, but not quite, for I will always include a check for something like 'Take Medicine,' and perhaps foolishly credit the player with the sense to type Get Medicine if he just wants to pick the thing up. Drop is much easier. You may prefer to use Discard, or Place, since anyone who drops a Ming vase onto a concrete floor is just asking for trouble.

## Clothing

Sartorial elegance apart, players will try and wear the most unusual things in adventure games. You might even find that their patience is wearing thin. Take great care with words like Wear and Remove, essential though they may be. Discard and Remove could almost be treated as the same thing, but as with Take and Get you will have to ensure that a number of checks are included to weed out the impossible.

# ADVENTURE BUILDING



● **Figure 1**

```
10 FOR I = 1 TO 64:READ SD$(I):NEXT I
:
:
100 DATA"at the edge of town."
102 DATA"approaching town."
:
etc.
```

● **Figure 2**

```
20 OPEN 2,8,2,"0:SHORTS,S,R"
25 FOR I=1 TO 64:PRINT#2,SD$(I):NEXT I
30 CLOSE 2:END
```

anatomical or otherwise.

## Other verbs

Help, Score and Inventory are found in most games, and having looked at score already we'll concentrate on the other two for a while. Help I usually leave till the bitter end, after the Save and Restore options have been sorted out, because I dislike giving anybody any help at all in an adventure game. If there's some spare memory left then fair enough, put in one or two help routines to encourage the faint hearted, but I'm a cruel programmer and content to let the player flounder desperately on. However, I do make sure that the program will recognise the word. Inventory is much more important, however, and whether you use it as a simple verb of its own (Inventory) or as a noun (as in Take Inventory, and a prize for the first person to tell me of an adventure that responds with "You can't see an inventory here"), it should always be included. You might care to go a little bit further than a number of programs, which might just respond with something like "You are carrying: a rope, an axe, a suit of armour, and a tin of beans" or whatever. If the player's wearing the suit of armour, tell him. If he's wearing the tin of beans, certify him. But do include some way in which the player can find out what he's got with him.

Thus our second line of data might be something like Figure Three:

Another eleven verbs already! The rest of them will probably vary from adventure to adventure, but most games find room for Figure Four.

I'm sure you can work out what those are, but just for the faint hearted we have open, close, examine, search, turn (as in turn lamp on, turn lamp off), light, push, pull, break, smash, and whatever else you care to use. Verbs are usually suggested more by the problems that you set the player than by the room descriptions, which tend to set up the noun tables. The nouns can come from the problems as well. If, for example, the player was required to type 'look under the mat' (cunning place to hide a key, that one) then the word 'mat' would obviously become one of your nouns. And no, not the incredibly boring person out of *Emmerdale Farm*.

Choosing verbs and nouns is terribly important. Level 9 may boast that some of their games have a vocabulary of 800 words or more, but there's no need to include every possible alternative to GET in order to have a large vocabulary. Words like THE and A are eliminated anyway, and so we are dependent to a great extent on the room descriptions and the problems set. Anything else is just the icing on the cake. If the player can look at everything mentioned in a description, and can type in the right words to solve the problems and complete the adventure, what more does he need? He needs that which makes the difference between a bad and a good adventure.

## Sophistication

The location descriptions and problems will provide your verbs and nouns. However we are not just limiting ourselves to a simple VERB . . . NOUN input. It might have been good enough for Crowther and Woods, and indeed Scott Adams and everyone else when they started on their forays into the adventure writing world, but nowadays players require something more complex than that. Although we are not going to approach the so-called sophistication of *The Pawn* and its vocabulary of more words than exist in the *Oxford English Dictionary*, we will advance significantly from VERB . . . NOUN. By judi-

● **Figure 3**

```
1010 DATAsave,rest,get,take,drop,disc,wear,remo,help,scor,inve
```

● **Figure 4**

```
1020 DATAopen,clos,exam,sear,turn,ligh,push,pull,brea,smas,
```

● **Figure 5**

```
1100 DATAin,on,at,unde,over,next,besi,bene,with,into
```

cious use of a vocabulary list we will be sophisticated enough to present the player with some difficulty, without getting so complicated that you would need a master's degree in English to use the thing.

Suppose one of the problems was the aforementioned 'looking under the mat', but there were three mats to choose from. Each one was a different colour, perhaps red, blue and green. Thus, the player might type in something like:
'look', the noun is 'mat', and if you remember back to the article on parsers you'll see that the word 'under' becomes an action word. Having found the key, the player would naturally enough want to open a door, and so he might type in something like:
'Turn the key in the lock'

Discarding the two 'the's, we would have the word 'turn' as a verb, the word 'lock' as a noun, while 'key' becomes a link word and 'in' becomes an action word. In general, action words will be as Figure Four or, just to lengthen those examples, in, on at, under, over, next, beside, beneath, with and into.

Very rarely will you get something like the first example, where 'green' became an action word. As a rule you would have all the 'in's, 'on's, and so on, as action words, plus a number of descriptive words for when there was more than one of an object, as with the three different mats.

Link words, however, are a mite more complicated, and need to be understood properly if we're going to get the best use of our parser. Generally, for every noun there is a corresponding link word, and for every action a corresponding link word. In other words, if you had 120 nouns and 25 action words, you would very probably have at least 145 link words. Why should this be so? Consider the sentence "Shoot door with gun". The verb and noun here are obvious: shoot and gun respectively. 'With' is our action word, and you'll see that in this example 'door' becomes our link word. On the other hand, when a player types in 'Turn the key in the door' 'door' is now our noun, and key becomes the link word.

To complete the sequence, a player might just want to enter: 'Fire gun at key'

> "Now you are in a position to draw up your complete vocabulary list. It will probably expand before we're finished but we have to start somewhere."

and key becomes a noun, gun link word. Thus it is a safe assumption to make that anything that can be a noun can also be a link word. The same applies for action words. A player might want to 'Push key under door'. The breakdown into verb, link, action and noun is fairly obvious here. On the other hand, a player could 'Climb under door'.

In this case we don't have an action word, merely verb . . . link . . . noun, but since 'under' is an action word it will also havbe to be a link word as well. In other words, you will have to duplicate every action and noun into a link word. You may also find a few links of their own creeping in, but that will depend on you and your adventure.

It will also, of course, depend on the problems that you set the player. When first devising your 'finished' (it never will be!) vocabulary list it is worth printing out all the room descriptions, and all the problems in order of correct solution. The largest adventure game I've ever written was *Enormous Cave*, a disk-based game for the dear old Commodore 64. There were countless problems in that, and the only way I could possibly produce the finished vocabulary list was to write down, in order, every solution. Even this will not give you everything, but a good place to start is by knowing what you've got to include, rather than what you might want to include. It is always better to include too much than too little.

As promised, very little programming this month, but lots of theory. By now, you should have all your room descriptions sorted out, and your map neatly drawn up and decipherable, if only by you.

You will know what all the problems are, and also what all the solutions are as well. We cannot proceed until that vitally important area has been sorted out.

And now, you are in a position to draw up your complete vocabulary list. It, like the map and the problems probably, will expand before we're finished, but we've got to start somewhere. You can also sort out all those short room descriptions as well, since they are going to be needed in the finished game.

So get your room descriptions, map and problems sorted out. Get the vocabulary list drawn up. Enter all those short room descriptions, and prepare for a return to programming next month. Theory is all very well, but there does come a point when we must return to the keyboard. We'll do that next time.

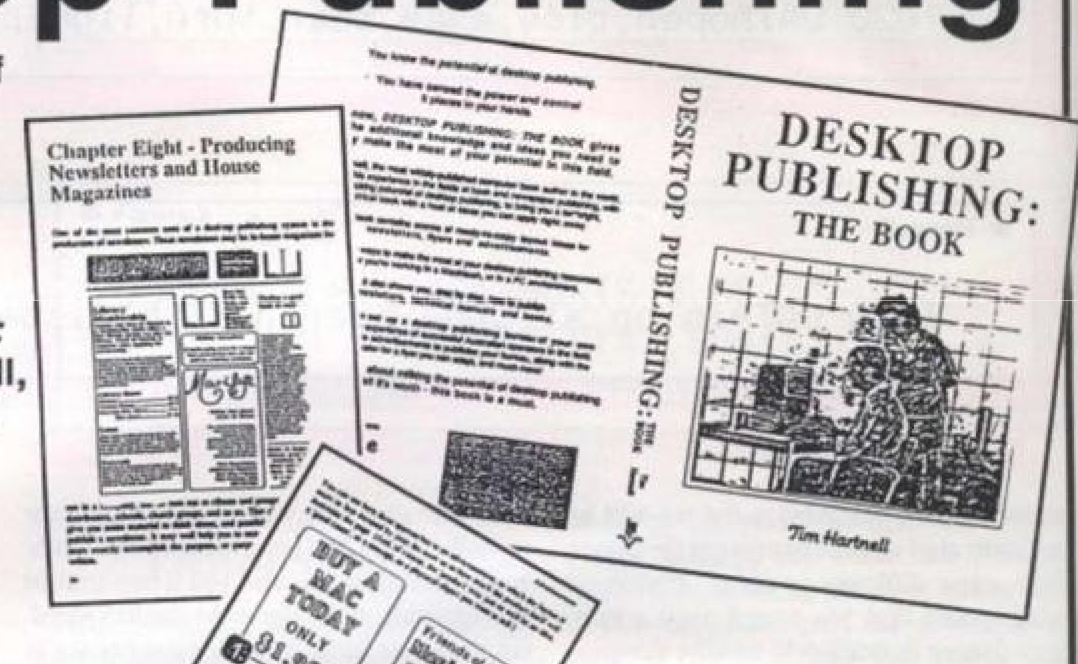
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# STRATEGIC THINKING




"Do you ever dream of world domination? This is your chance to control the entire world"

**Annals of Rome**
**CPC464/6128, Spectrum, PCW, PC, CBM64, ST**
**Publisher: PSS**

**Operation Vulcan**
**Spectrum, Amstrad CPC**
**Publisher: CCS**

Do you dream of world domination? This is your chance to control the destiny of the entire known world. O.K. so back in 273 BC the known world wasn't all that big, but there's enough to be getting along with. *The Annals of Rome* puts you in the driving seat of one of the most successful imperial powers ever. The Romans controlled the entire coast of the Mediterranean and a great deal of Europe into the bargain for hundreds of years. It makes the British Empire seem a bit of a storm in a teacup.

At the start of the game, Rome consists of Italy surrounded by bigger nations with bigger armies. Your aim is to conquer as much territory as possible and hold it. Each turn is a random number of years long and no matter what the length, consists of a number of phases. The economics phase is largely automatic; the player can only choose the tax rate. The higher this is, the more money rolls into the old coffers, but harsh taxation will also decrease your popularity rating, inflation will rise and population growth may be stunted due to hardships. The computer works out which player controls which areas, population changes, revenue and armies for all the nations – Rome and the other races controlled by the computer.

## Loyalty

After this, the player can redistribute his 21 Senators and Commanders. Each of these has a military ability, loyalty and age. They can be moved around and given command of the various Roman forces dotted about. However, the older a commander is, and the lower his loyalty rating, the more likely he is to rebel and try to use his army to depose the current leadership. This is especially dangerous if you give him a large army. But, if there's enough money in the coffers, you can try to bribe the legionnaires to ignore their commander and remain loyal.

If you have failed, the Civil War phase comes next. There can, if the present regime is particularly unpopular, be several different rebel factions. The computer controls all the rebel factions and you control the remaining loyal legions. If the rebels take Italy then they overthrow the government and install a new man.

Finally we come to the important bit – beating up the Barbarians. There are no less than 37 races of people intent on upsetting the Pax Romana. Fortunately, the 18 page rule book tells you where and when they are due to turn up. The map consists of 28 separate areas. If an area is controlled by Barbarians, the computer begins the attack. If it is a Roman controlled area, the computer checks that the Roman force has a commander assigned to it and then asks the player to select a neighbouring area to be attacked.

After all areas have had the chance to attack, play moves on to the next round. To score as many points as possible you must take areas and hold them.

I found this an absorbing, if rather longwinded game. Playing the whole thing right through to the bitter end is a truly mammoth undertaking. Some conversions play faster than others, but in just about all versions, the combat phase is irritatingly slow. If you are patient, the game amply rewards perseverance; there are so many factors to be finely judged. Particularly critical is the popularity rating.

Popularity takes a nose dive if the Barbarians successfully conquer a Roman controlled area or if too many Roman commanders or legions bite the bullet. It pays to be cautious – especially in the early years when the Carthaginians can really hurt the Romans (ie the 2nd Punic War). Rebellions are very annoying. At the very least, your legions will end up in the wrong positions, at the very worst, the army can very nearly tear itself apart.

## Rebellion

If popularity drops below zero (on a scale of five to minus five) the player can no longer move commanders around. But the good thing about rebellions is that no matter who wins, the player controls the new regime. It is often a good idea to foment rebellion. This is easy; simply demote a commander and put someone really unpopular in charge in Rome. After a successful rebellion, the new regime will have a popularity rating between zero and five. On the other hand, if the old emperor simply kicks the bucket then the new regime will have a completely random popularity.

Once the whole map is under Roman control, the only two problems are invasions and rebellions. If a Barbarian race's home area (ie Gaul for the Gauls) is conquered – and their population level is not zero, then there may be a rebellion so it pays to garrison such areas securely. In time, an occupied race will die out; but it is not unusual to have people from three or four races living in an area. Invasions are similar except these come from outside the area of the map.

Things go relatively smoothly until the Goths, Vandals and Huns turn up around 400AD. Not only are there a lot of them, but they are also high quality troops. From this point the Roman player is just post-

"After you've thrashed the computer on every scenario of Vulcan you'll soon be looking for a fellow human being to practice on"




poning the inevitable. Rome will eventually fall, although the Roman player can relocate his capital – usually to Turkey (representing the founding of Byzantium and the largely independent Eastern Roman Empire which was formed in 300AD to ease administration). It is then a question of trying to defend this area and hoping the other nations get stuck into each other rather than attacking you. If you are interested in this period of history you may well find this a very absorbing game. However, its lack of speed means that it probably will not appeal to the casual game player who is not prepared to devote hours to it.

## Pedigree

Robert Smith has been pre-eminent amongst Spectrum wargame authors for some time. he established his pedigree with *Arnhem*, confirmed it with *Desert Rats* and has further reinforced it with *Vulcan*. The game depicts the Tunisian campaign of 1942/43, which has not been exactly a popular subject for wargames; this is apparently the first time it has received attention on computers or board games. Hardly surprising, as the battle was rather one sided. The German army was bottled up around Tunis with their backs to a Mediterranean increasingly under allied control from air bases on Malta.

The terrain does little to excite the imagination; the campaign slogged through the muddy winter in the mountains with little room for manouevre. Why Mr. Smith picked such an unpromising campaign is totally beyond me. Perhaps D-Day or that perennial favourite the Ardennes campaign might have been a more fertile choice.

Despite this, I enjoyed this game. Anyone familiar with the two previous games will pick this one up very quickly. The large map scrolls in four directions showing the positions of the forces. Each player gets a chance to command each unit in turn. There are several commands: move, travel, divide, report, assault, reveal and skip. To move a unit, the joystick is moved and the fire button is pressed. The unit will then attempt to move as far as possible towards this position. A travel order is similar except that the position indicated must be on a road and the unit itself must be on a road. 'Divide' allows a unit to break down into its constituent smaller units.

The report order shows the current status of a unit. It's important to know what all the numbers on this report mean. Each unit has a basic strength which simply represents the number of men in the formation. The effectiveness rating reflects the fatigue of a unit. It is reduced by combat and recovers if a unit rests. The current state of the unit's supply is shown and this reveals not only how much supply the unit is carrying with it, but also whether it is currently in a position to receive supplies.

If a unit is fortified, the status report will show how strong these fortifications are. A stacking rating shows how compact the unit is – each location on the map can take a certain value of stacking points and this number reveals how much of this allowance this unit uses up. Each unit also has an AMM rating which remains constant and reflects the unit's level of equipment and training (ie low for Italian infantry, high for the good old Afrika Korps).

## Expensive

The assault order is similar to a movement order, except that the unit will attack anything it meets – this is more expensive in terms of casualties and supplies. The reveal order allows the player to see what terrain is under a unit and the skip order allows the player to leave that unit where it is for the moment and come back to it later.

So far this is all old hat to Desert Rats fans. But the new bells and whistles that have been bolted on to the basic system add a new dimension to the game. An enemy unit not adjacent to a friendly unit is not displayed on the map. This allows players to spring surprises on their opponent and stops the game becoming a sluggish match. Both players will find themselves hoarding reserves. This allows them to attack suddently and respond to enemy moves. This is emphasised by the lack of roads and the difficulty of moving units across mountains. Thus reserves sit at road junctions ready to move to the scene of the action.

The other innovation is the introduction of air units. These can either act like flying artillery or perform a recce role. While this won't reveal the composition of enemy units, it'll reveal their location. These factors combined with weather, supply and effectiveness lead to a realistic stop-go sort of campaign. When an offensive bogs down, the wise player will stop, dig in the infantry, stick his armour in reserve, allow his units to recover effectiveness and hoard supplies. Then, through reconaissance, he will try to launch an offensive where he thinks the enemy is weakest. Part and parcel of this will be the use of feints to try and draw off enemy reserves before the main blow falls – and just hope that the good weather holds – a sudden downpour can stop a breakthrough in its tracks.

## Walkover

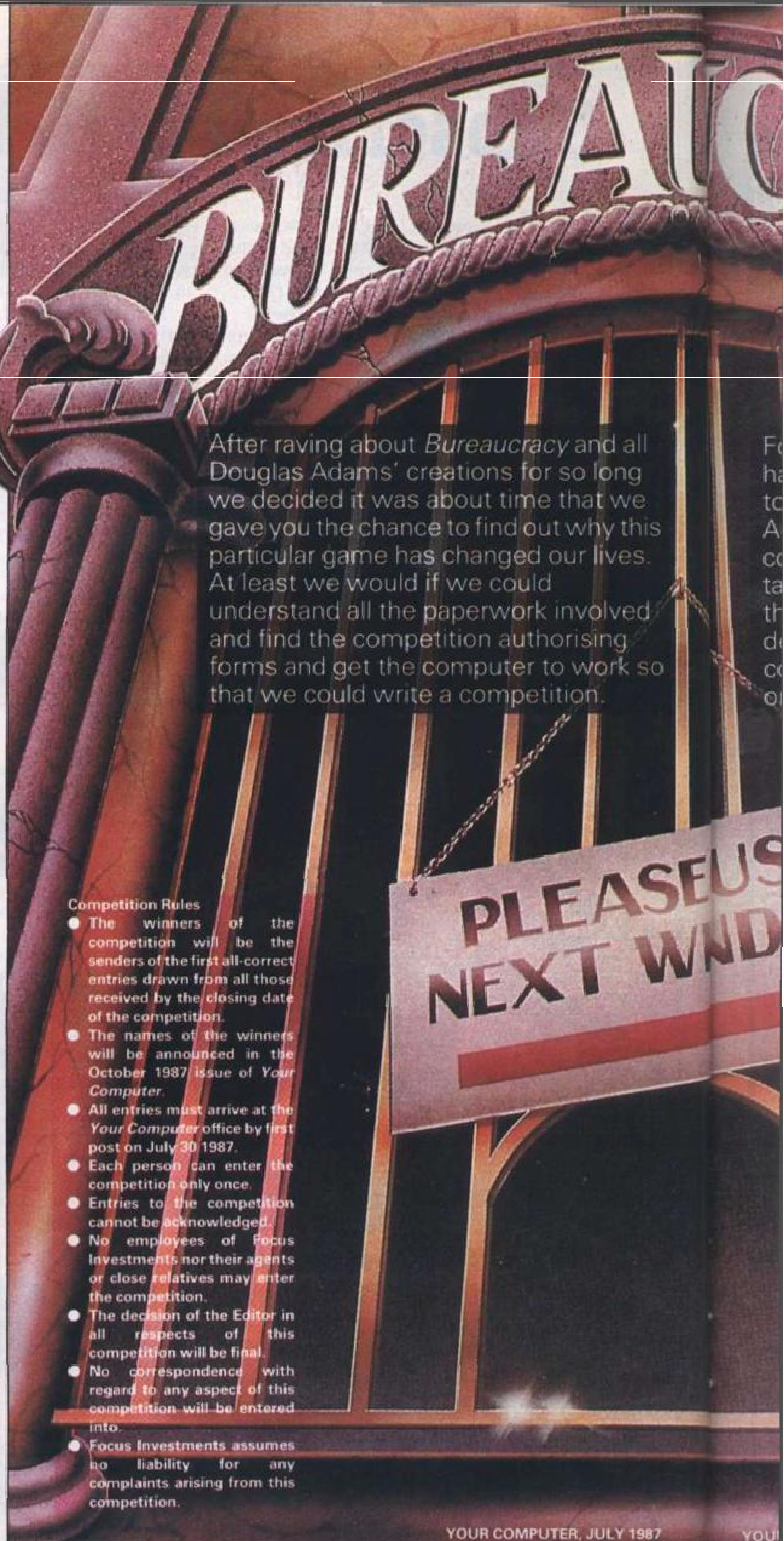
The only trouble is that all this subtlety is rather lost on the poor old computer. The one player game is usually a total walkover. It's a good way to learn the game, but after you've thrashed it on every scenario, you'll be looking around for a fellow human being to practice your newly acquired skills on. Another annoying niggle is that even when you are fighting a unit, it is not identified. Some idea of its strength can be gained but that's about it.

It is not clear how which of the four bits of terrain that a unit is sitting on actually affects combat and movement. Despite the way smooth way the supply rules work, there are times when they don't quite come off. If a unit is hopelessly surrounded there is plenty of time to get it out as stationary units do not use any supplies, unless attacked – which doesn't use up that much. Reducing enemy pockets is a painful business, although if a unit runs out of supply altogether, its demise is swift.

The Spectrum 128 version has few added facilities. You can restart a game without reloading from tape, and there is an option to show the number of troops and tanks presently on each side and the number each side has lost.

Robert Smith is still streets ahead of the opposition in this field, and I will await his next game with eagerness – perhaps something a little less obscure next time – please?

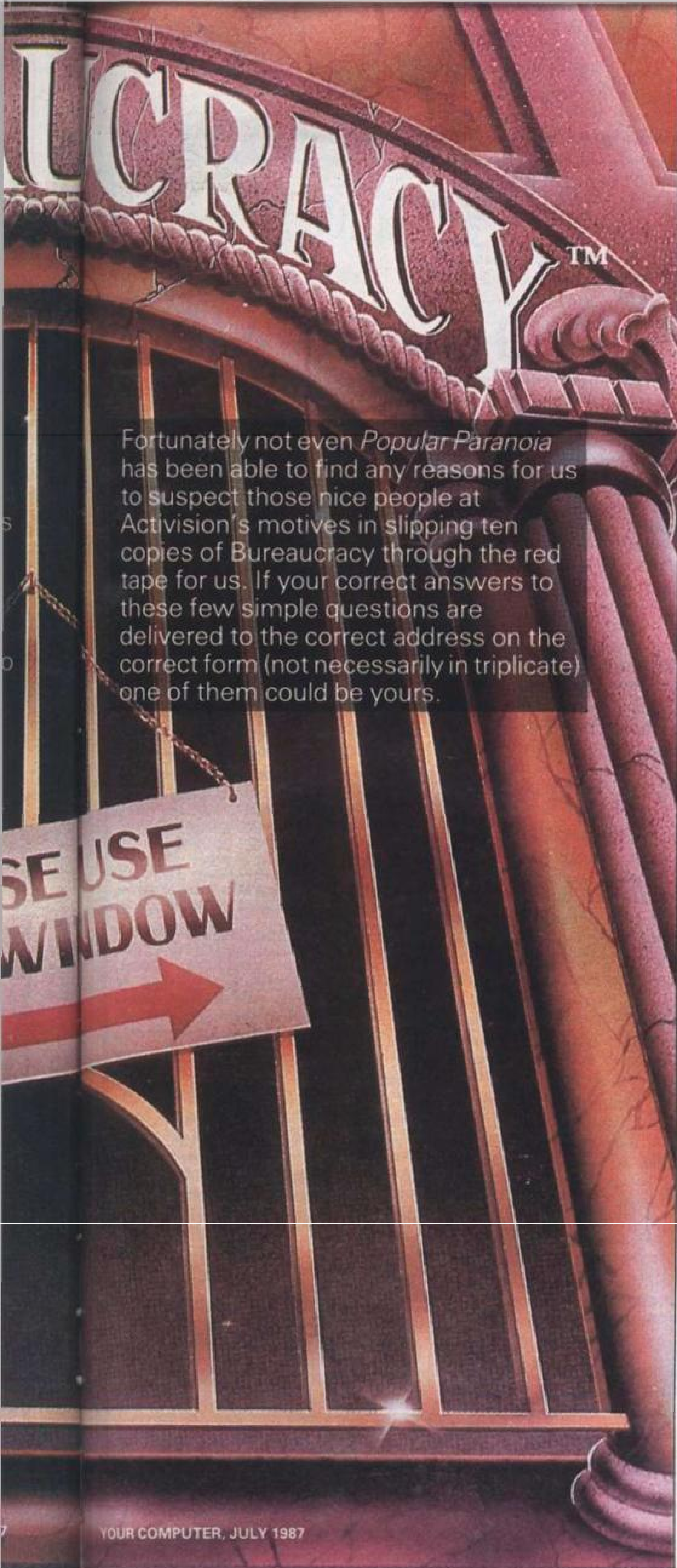
# COMPETITION



After raving about *Bureaucracy* and all Douglas Adams' creations for so long we decided it was about time that we gave you the chance to find out why this particular game has changed our lives. At least we would if we could understand all the paperwork involved and find the competition authorising forms and get the computer to work so that we could write a competition.

**Competition Rules**

- The winners of the competition will be the senders of the first all-correct entries drawn from all those received by the closing date of the competition.
- The names of the winners will be announced in the October 1987 issue of *Your Computer*.
- All entries must arrive at the *Your Computer* office by first post on July 30 1987.
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Fortunately not even *Popular Paranoia* has been able to find any reasons for us to suspect those nice people at Activision's motives in slipping ten copies of Bureaucracy through the red tape for us. If your correct answers to these few simple questions are delivered to the correct address on the correct form (not necessarily in triplicate) one of them could be yours.

## QUESTIONS

1. What is the code name of the form which you give to a new employer so you can be taxed correctly?
______________________

2. What is the official name of the four digit code needed to use a cashpoint card?______________________

3. Who plays Sir Humphrey Appleby in the television series *Yes Prime Minister*?______________________

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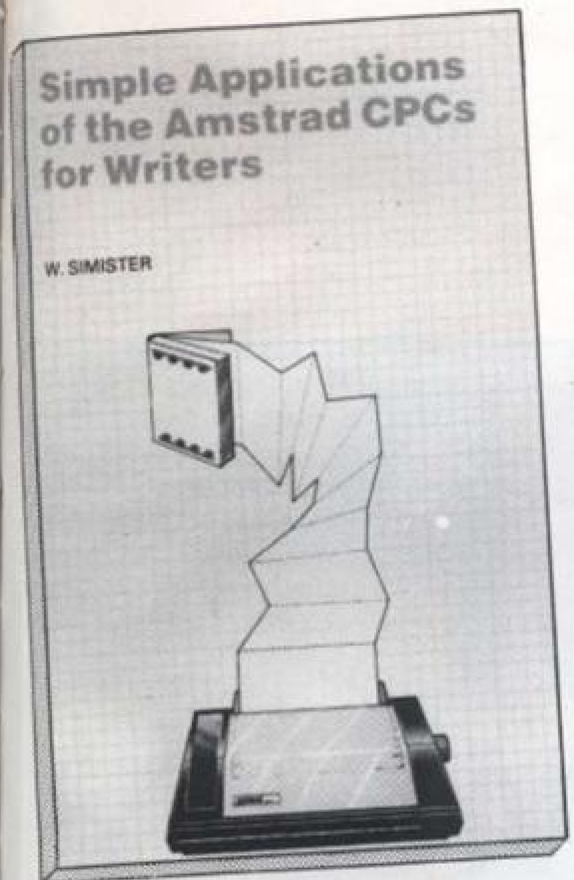
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## Simple applications of the Amstrad CPCs for Writers

**Author: W. Simister**
**Publisher: Bernard Babani**
**Price: £2.95**

This book fulfils one of my main requirements for instructional manuals; it is short, 79 pages, and promises to be simple. As with all the many books from its publisher, it takes a specific computing problem and offers an interesting and practical solution which can be achieved cheaply by anyone sufficiently computer literate to have had the difficulty in the first place.

In this instance the problem is word processors. The author finds two specific problems affect writers in employing their numerous benefits. The first is obviously expense; a new PC clone, drives, monitor, printer and program might be affordable when the royalties begin arriving but not before the masterpiece has been written. If the cost hurdle is surmounted, the complexity of say, *WordStar*, would, it is suggested, be sufficient to exhaust sensitive creative types and detract from their writing.

The solution is simple. Find an Amstrad CPC or similar, with at least 64K memory, and ideally a disk drive, offer your little brother sufficient bribes for him to stop zapping aliens for the afternoon, and tap in the program presented in this book. At that point natural caution might become sufficient deterrent to send you back to the software shop swearing that you never even thought you could program a word processor.

That would be a pity as the program consists of only 15 lines of Basic and is, as promised, simple. Further chapters give advice on each aspect of the program and such coveted features as word wrapping. A few extra lines equip the program to deal with either the DMP1 or DMP2000 printers, including the latter's various typestyles.

The book was written with the program it contains, which is proof enough that it works. Those who are used to grappling with complex word processing programs may be unable to adjust to something so simple. There may be some satisfaction in building your own word processing program, though the effort may outweigh the rewards. It all seems a little like baking your own bread rather than buying it – plenty of mess, difficulty, time and effort with infinitely less satisfying results.

Still, if self-sufficiency is your aim, or you want programming practice with practical and usable results, you could do worse than try this program. As a basic word processor for those unable or unwilling to buy equipment used more conventionally for the purpose your £2.95 will not have been wasted.

## Microsoft Quick Basic

**Author: Douglas Hergert**
**Publisher: Microsoft Press**
**Price: £17.95**

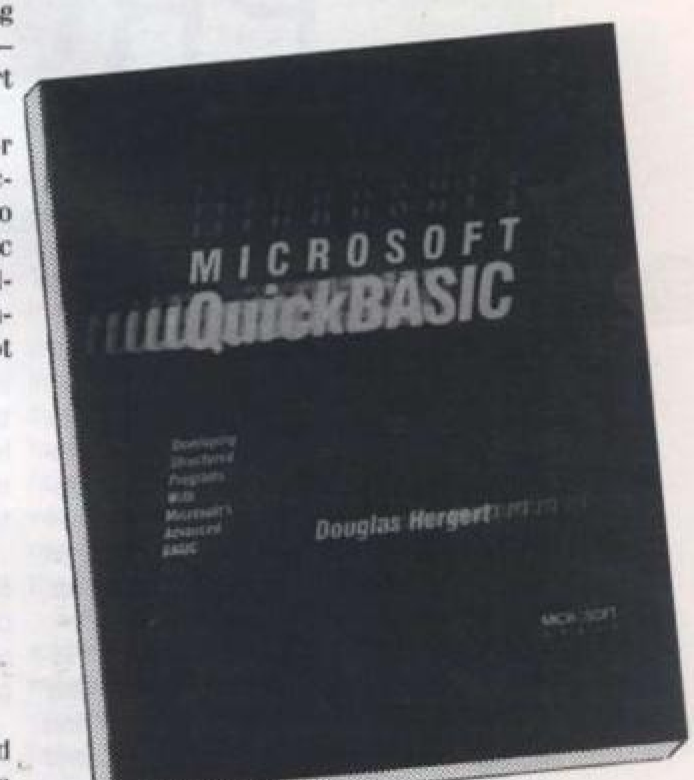
This book is intended for experienced Basic programmers who deem themselves ready to make the giant leap to the programming environment Microsoft says is more professional. By using QuickBasic the speed of your programs can be increased by up to 300 per cent through the use of structured programming techniques.

Having trumpeted the virtues of structured programming the author would, one might expect, proceed to explain it in some detail; instead the book offers five sample programs which contain elements of this style of programming. That is like the suspect mode of language teaching where the mysteries of French grammar are expected to unfold to you by you learning to recite phrases asking how much the butter costs. It is a good method if the examples are useful and contain sufficient theory to sustain the practice.

The usefulness of this book rests on the programming experience it provides and the content of the programs – you need some motivation to use the program and to make it work. The five on offer are a mortgage calculation program, a chart and table-creating utility, a data analysis program, a database management program and a game program intended to display the power of the QuickBasic new decision structure.

It is unlikely that all the programs would be of use to any one person and it might have made a more interesting book if there was more facility for customising, say, the mortgage calculation program to fit your needs and interests.

Despite that grumble – and I doubt that




any software company would release a blueprint for an easily-customised program with sufficient power and detail mto be really useful – the book is very well-produced with both text and program details in clear type and plenty of structure charts so that you know what you are doing. Unfortunately the binding is too good; one would think that publishers would have read enough book reviews to learn that programming manuals should open flat and stay where they are put, at least until programmers evolve the spare hand otherwise necessary.

If you have an interest in marketing or personnel, the applications provided would be useful. If your interest in programming ceases mid-program there is a provision for ordering an IBM-compatible disk, though from the Microsoft U.S. address rather than via its U.K. distributor Penguin.

WHY ARE TSRs SO POPULAR? ADAM DENNING PEEPS THROUGH THE POP-UP WINDOWS

# POP UP PROGRAMS

## *part two*

This month we look into the aspects of TSRs – Terminate and Stay Resident programs – which make them particularly popular, pop-up windows and 'hot keys'. A pop-up window is a name for a box which appears on the screen over whatever was already there. The idea of a pop-up window is that when you no longer need it, it goes away, leaving the screen as it was before the window popped up. These are really easy to do on the PC.

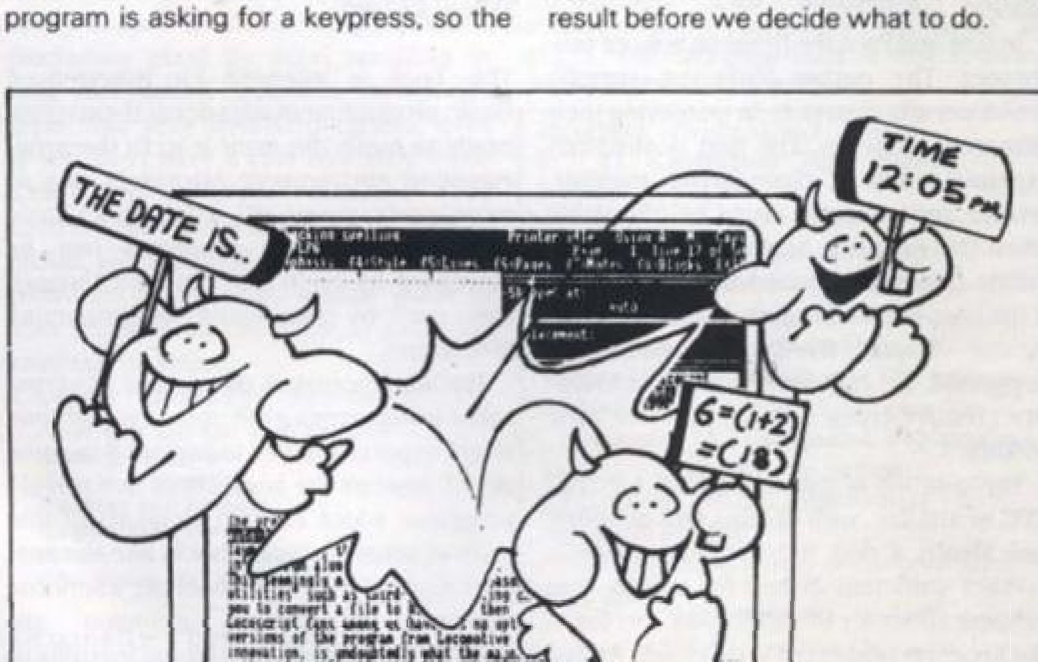
A hotkey is a key which is used to trigger a dormant program. *SideKick*, for example, watches the keyboard and springs into action only when CTRL and ALT – and certain other key combinations – are pressed together. The normal sequence of events for a standard TSR is to watch the keyboard for its hotkey and produce its pop-up window when it sees it. The TSR then removes the window when the user has finished doing whatever the TSR does. We shall not write a TSR this month – that is reserved for next month. Instead we examine the techniques for producing pop-up windows and watching for hotkeys.

## INTERRUPT

For a program to check and react to a hotkey, it obviously needs to watch the keyboard. The easiest way is to take over the keyboard by trapping the interrupt which is used to signal the BIOS to read a key. Then, whenever a program tries to read a key, the TSR gets there first and checks to see if the key is its special one. If not, the key is passed to the program which first asked for the key. If the key is the hotkey, the TSR springs into action. When it has finished, either it may return the key value to the program as if nothing had happened or it could ask the BIOS for the next key and return that to the application.

The keyboard interrupt used by the BIOS is interrupt 16H. It is passed a parameter in AH which determines which action is to be taken. If AH is zero the program is asking for a keypress, so the interrupt routine waits until a key is pressed if there is not already one waiting. If AH is 1, the program wants to know if there is a key available.

The other values possible for AH need not concern us now. We need only to trap the first event – when the program wants a key. We can do it quickly and easily just be testing AH for 0. If AH is not zero, we pass control to the real keyboard routine immediately. If it is zero, we still call the keyboard routine but we examine its result before we decide what to do.






If the result is our hotkey, we take control. To demonstrate this, assume you have written a program to re-vector interrupt 16H to your routine called INT_16, and the old vector contents are saved in OLD_INT16. The start of INT_16 would look something like figure one.

## CALLING

We jumped to INT_10 immediately if the program was not asking for a key. At INT_10 we jump straight to the old keyboard routine, which then returns to the calling program in its normal way. If the program was asking for a key, we call the old interrupt routine rather than jumping to it. The routine returns the keyboard scan code in AX of the key pressed.

If this scan code is not the same as the one we have chosen for our hotkey, we jump to INT_20. Here we remove the return address offset and segment information from the stack, pop the flags and then return to the application via a far jump. We need to do this because the INT instruction pushes first the flags, then the current CS register, and then the address of the instruction following the INT instruction.

If the key read was our hotkey, we can do whatever processing we choose. Note that we re-load AX with our hotkey scan code value once we have finished, so that we can return it to the program. As an alternative, you may like to jump to the old keyboard interrupt routine so that the next keypress is returned to the application.

## VARIABLES

Notice that wherever we access a variable in the foregoing code, the 'CS:' segment override prefix is used. That is because when an interrupt routine is entered, DS could be pointing anywhere. CS, though, must obviously be pointing to our code segment. By ensuring that variables used before we have set up a specific DS value are in the code segment and that CS: is used, we know we can access them easily.

Obviously, once we are inside the main part of the TSR the current SS and SP registers should be saved somewhere in the code segment and a new stack should be created somewhere. Then all registers which the routine uses should be saved on the stack. When the routine finishes it should restore all the saved registers, return to the old stack and then continue.

The only possible problem with hotkey routines such as this one is that the keyboard interrupt routine returns a scan code rather than the pure ASCII values. For various reasons that is very useful but unless you know the codes, you can come unstuck. As it happens, normal keys are returned as their ASCII codes in AL and the scan number in AH. Special key codes, such as ALT-I, are returned with 00 in AL.

To allow pop-up windows to appear invisible to whatever they pop up on top of, the code which creates them needs to save whatever is being displayed before drawing the window. Note, incidentally, that these pop-up windows will work on mono or colour screens but only in 80-column text modes. This is easily done by moving an area of memory from the screen RAM to a safe area in the TSR. Rather than save the whole screen it seems worthwhile to have a routine which saves only the amount of space used by the window.

## ROUTINE

To make our calculations a little easier, we will write our routine so that it saves a given number of full screen lines starting at a given first line. The routine will be passed the number of consecutive screen lines to save in register CX and the first line to save in AX. Our lines start at 0, so AX = 0 means that the top line is the first line saved. The procedure is called SAVE_AREA. See figure two.

This routine works by first calculating the offset within the screen RAM segment of the start of the first line to be saved. This is done by multiplying by 160, since each line has 80 characters and each character position takes up two bytes, one for the attribute of the character and one for the character.

## INSTRUCT

The number of lines to save is then converted into the number of words – each word is two bytes – by multiplying by 80. That value is stored in register CX so that it can be used as the repeat count by the ensuing block move instruction. This instruction requires the source in DS:SI and the destination in ES:DI, so SI is loaded with the offset and DS is loaded from a location called SCREEN_START, which has been pre-set – by some earlier code – to hold the segment address of the screen being displayed.

ES is set up to hold the segment address of our data segment and DI is made to point to buffer, S_BUFFER, which must be big enough to hold all the bytes moved. The instruction, REP MOVSW, is then executed. Notice that this routine corrupts the SI and DI registers.

To restore a screen-part saved in this

**● Figure 1**

```
return_ptr          equ  this dword
return_address      dw   ?
return_segment      dw   ?

INT_16      proc near
            test ah,ah                  ; is AH zero?
            jnz  int_10                 ; branch if not
            call cs:old_int16           ; call keyboard routine
            cmp  ax,HOTKEY              ; is this our hot key?
            jnz  int_20                 ; branch if not

; the TSR now has control

            mov  ax,HOTKEY              ; return HOTKEY value
            jmp  short int_20

int_10:     jmp  cs:old_int16           ; jump to old keyboard routine

int_20:     pop  cs:return_address      ; remove INT stack information
            pop  cs:return_segment
            popf
            jmp  cs:return_ptr          ; return to application
```

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```
        save_area       proc      near                    ● Figure 2
                push    ax
                push    cx
                mov     si,160
                mul     si
                push    ax                      ; offset of first line to save
                mov     ax,cx
                shr     si,1
                mul     si
                mov     cx,ax                   ; words to save
                pop     si                      ; SI now holds offset of line to
save
                mov     di,offset s_buffer
                push    es                      ; save segment registers...
                push    ds
                push    ds
                pop     es                      ; and set up so ES = our data se
gment
                mov     ds,es:screen_start      ; DS = screen segment
                cld
                rep     movsw                   ; move from screen to our buffer
                pop     ds                      ; and restore segment registers
                pop     es
                pop     cx
                pop     ax
                ret
        save_area       endp
```

# POP UP PROGRAMS

*part two*

way, we need an analogous routine, called RESTORE_AREA. It works in the same way except that it moves from our buffer to the screen. There is another difference, which can be seen in figure three.

You will notice that, at the point where the data is to be copied from the buffer to the screen, there is an IFDEF assembler directive. It causes assembly to be conditional on whether a symbol called SNOW has been defined. If it has, the loop with the calls to WRITE_WORD is assembled. If SNOW is not defined, the REP MOVSW instruction is assembled.

## SNOW

The reason is that some screen displays can seem to 'snow' when data is written directly to the video RAM. Not many displays do this but on some it can be annoying. There is a way of circumventing it and that is what WRITE_WORD does. When using RESTORE_AREA it is wise first to assemble without defining SNOW. In that way you can see if your screen produces snow or not. If it does, and you find it annoying, put this line somewhere near the top of your program source file.

The assembler will then know about SNOW and will assemble the calls to the WRITE_WORD routine. WRITE_WORD (figure four) is considerably slower than REP MOVSW but it is faster than writing to the screen via the BIOS or via DOS.

This routine works by waiting for the flyback interval before writing data to the screen. As the interval is so short, only one byte can be written in it. The routine determines the flyback period by checking the 6845 status register repeatedly. The 6845 is the PC video controller chip.

To draw the pop-up window over the newly-saved area of screen, we can use the PC graphics characters. It has special characters for drawing boxes with thin sides and thick sides; the routine DRAW_BOX in figure five uses the thick-sided characters. DRA_BOX expects the start line of the box in AX and the number of lines in CX. As it stands, it draws a box so that it is CX lines high and always 80 characters wide. If you want boxes which are narrower, a little easy alteration is required.

In the same way as SAVE_AREA, DRAW_BOX calculates the offset into the screen segment of the start of the first line of the box and saves it in DI. ES is set up to point to the screen segment and AH is loaded with the required attribute – colour – for the box from BORDER_ATTRIBUTE. Try 70h for this value first of all – that is inverse video.

The box is drawn by first displaying the top left-hand corner, then drawing 78 horizontal bar characters followed by the top right-hand corner. The routine INNER_LINE is called to draw each of the lines in the box and then the last line is drawn by displaying the bottom left-hand corner, drawing 78 horizontal bar characters again and finally drawing the bottom right-hand corner.

INNER_LINE first displays a vertical bar character and then it prints 78 space characters in the colour determined by INNER_ATTRIBUTE. Try 7 for this – that is normal video. At the end of the line another vertical bar is displayed in the colour determined by BORDER_ATTRIBUTE again.

To initialise the vale of SCREEN_START, use the code in figure six before you call any of SAVE_AREA, RESTORE_AREA or DRAW_BOX.

This routine asks the BIOS, via the video interrupt, the screen display mode. If it is mode 7, a monochrome adaptor must be in use so the screen segment is at B000H. If the mode is not 7, a colour/graphics card is in use – we will ignore EGAs – so the screen starts at segment B800H. The video page number, however, tells us which part of the colour screen segment the current display page is in. We use this number to bias the saved segment value.

Although you have everything you need to write TSRs with hotkeys and pop-up windows, you may find you want a reasonably simple, type-in-and-go program to try everything. To satisfy that desire, next month's article has a complete listing for a pop-up hex calculator. tion of a pop-up hex calculator.

```
        restore_area    proc    near                                    ● Figure 3
                push    ax
                push    cx
                mov     di,160
                mul     di
                push    ax                      ; offset of first line to restor
e
                mov     ax,cx
                shr     di,1
                mul     di
                mov     cx,ax                   ; words to restore
                pop     di                      ; DI holds offset of line to res
tore
                mov     si,offset s_buffer
                push    es                      ; save segment register
                mov     es,screen_start         ; and set ES = screen segment
                cld

                IFDEF   SNOW
        ral:    lodsw
                call    write_word
                loop    ral
                ELSE
                rep     movsw                   ; move from our buffer to screen
                ENDIF

                pop     es                      ; and restore segment register
                pop     cx
                pop     ax
                ret
        restore_area    endp
```

```
        IFDEF   SNOW
STATUS_6845     equ  Ø3DAH
; Write_word writes the character and attribute in AX to the screen RAM
; addressed by ES:DI, updating DI to point to the next screen word.
; The slow method is used in which the 6845 status register is checked
ntil
; it's ok to write the bytes.
; No registers are affected (except DI, of course)

; This subroutine exists only if SNOW is defined

write_word      proc    near
        push    dx
        push    cx
        push    ax
        mov     cx,ax
        mov     dx,STATUS_6845
        cli
swait1: in      al,dx
        and     al,1
        jnz     swait1
swait2: in      al,dx
        and     al,1
        jz      swait2
        mov     al,cl
        stosb
swait3: in      al,dx
        and     al,1
        jnz     swait3
swait4: in      al,dx
        and     al,1
        jz      swait4
        mov     al,ch
        stosb
        sti
        pop     ax
        pop     cx
        pop     dx
        ret
write_word      endp

        ENDIF
```

● Figure 4

● Figure 5

```
draw_box        proc    near
        push    ax
        push    cx
        push    di
        push    es                      ; save segment register
        mov     es,screen_start         ; and set it to screen buffer
        mov     di,16Ø
        mul     di
        mov     di,ax                   ; DI now holds offset of first
ine
        mov     ah,border_attribute
        push    cx                      ; save number of lines
        mov     al,Øc9h                 ; upper left corner

        IFDEF   SNOW
        call    write_word
        ELSE
        stosw
        ENDIF

        mov     al,Øcdh                 ; horizontal bar
        mov     cx,78                   ; 78 characters

        IFDEF   SNOW
db2:    call    write_word
        loop    db2
        ELSE
        rep     stosw
        ENDIF

        mov     al,Øbbh                 ; upper right corner

        IFDEF   SNOW
        call    write_word
        ELSE
        stosw
        ENDIF

        pop     cx                      ; recover line count
        dec     cx                      ; reduce by two for top and bo
om
        dec     cx
doline: call    inner_line
        loop    doline
        mov     al,Øc8h                 ; bottom left corner

        IFDEF   SNOW
        call    write_word
        ELSE
        stosw
        ENDIF

        mov     al,Øcdh                 ; horizontal bar
        mov     cx,78

        IFDEF   SNOW
db1:    call    write_word
        loop    db1
        ELSE
        rep     stosw
```

# POP UP PROGRAMS

*part two*

● Figure 6

```
        ENDIF

        mov     al,0bch                         ; bottom right corner

        IFDEF   SNOW
        call    write_word
        ELSE
        stosw
        ENDIF

        pop     es
        pop     di
        pop     cx
        pop     ax
        ret
draw_box        endp

inner_line      proc    near
        push    cx
        mov     al,0bah                         ; vertical bar

        IFDEF   SNOW
        call    write_word
        ELSE
        stosw
        ENDIF

        mov     cx,78
        mov     al,' '
        mov     ah,inner_attribute

        IFDEF   SNOW
ill:    call    write_word
        loop    ill
        ELSE
        rep     stosw
        ENDIF

        mov     ah,border_attribute
        mov     al,0bah                         ; vertical bar

        IFDEF   SNOW
        call    write_word
        ELSE
        stosw
        ENDIF

        pop     cx
        ret
inner_line      endp
```

● Figure 7

```
    VIDEO_INT       equu    10h
    MONO_SCREEN     equ     0b000h
    COLOUR_SCREEN   equ     0b800h
    PAGE_LENGTH     equ     01000h

    popup   proc    near
            mov     ah,15                   ; get current video mode and pag
e
            int     VIDEO_INT
            mov     video_page,bh
            push    ax                      ; save screen mode
            mov     ah,3                    ; get cursor position
            int     VIDEO_INT
            mov     cursor_position,dx      ; and save it
            pop     ax                      ; retrieve screen mode
            cmp     al,7                    ; is it MONO?
            jnz     colour
            mov     ax,MONO_SCREEN
            jmp     short mono
    colour: sub     bl,bl
            xchg    bl,bh
            mov     ax,PAGE_LENGTH SHR 4    ; length of video page in paragr
aphs
            mul     bx
            add     ax,COLOUR_SCREEN
    mono:   mov     screen_start,ax
            ret
    popup   endp
```

# SOFT RELEASE

## Force One

**£1.99**
**CBM64**
**Publisher: Firebird**







Calling all mindless blasters, calling all mindless blasters . . . here could be a game for you. I suppose it helps to have a little justification if you're going to start blowing everything on the screen to smithereens, so this is it. Gone is that wonderful year we remember so well, 2429, and it is now 2430. The Second Solar War is raging on and from deep inside the enemy occupied Fifth Star System a distress message comes calling help from the one ship that is both close enough and powerful enough to assist. Guess what it's called? Right, the Force One. Guess who's commander? Right, you.

One advantage of this game, other than its price tag, has to be that it loads incredibly quickly for a Commodore game – but then there can't be that much to load in; it's your basic blast program version 4(b) plus or minus a few twiddly bits.

Your ship faces and fires to the right and patrols the left half of the screen. It's able to move up and down to the edges, and left and right as far as the centre of the screen. It's definitely from the post-*Uridium* school of spaceship design, being initially a largeish metallic looking ship with a couple of gun barrels at top and bottom. These are nicely animated and quiver slightly when the guns fire – as indeed they will need to do, with enemy ships coming at you in ever-increasing waves.

At first the ships (or pods) come from the right of the screen, and the cassette cover, which is purely for the Commodore version, says that 'the approach of a pod is indicated by a screen message and points are scored by allowing it to pass the green'. Well, not in my version it doesn't. This being a finished copy rather than a review copy, and having loaded up both sides of the tape, one thing that mars this game is that the screen, apart from ships, is absolutely bare, with no scoring table at all, unlike the screen shots on the back of the package which show a neat title at top and the usual high-score and lives remaining at bottom.

It looks like the wrong version may have slipped out – rather disconcerting not to know how many lives you begin with, or have left, or have any record of the score at all as pressing the fire button at the end of the game (which you only know about because the screen remains blank and another ship fails to materialise) goes straight to the start of the next game.

It is a good if simple blast while you're playing. The waves of ships swirl and circle round, eventually going off to the left if you don't manage to wipe them all out, and the graphics are impressive though the sound could be better – utter silence when your own ship is zapped. Later waves start to arrive from the left, giving you the proverbial blast up the bum if you're not careful, and the colours and shapes change and rotate very smartly.

It becomes rather repetitive in the long run, if you can get that far, and at heart it's something like the old *Galaxians* on its side, but good cheap fun for the mindless Commie blasters among us.

Mike Gerrard

## Nemesis the Warlock

**Spectrum (£7.95); CBM64 and Amstrad CPC tape (£8.95); CBM64 disk (£12.95); Amstrad CPC disk (£14.95)**
**Publisher: Martech**

Just when you thought it was safe to consign the platforms and ladders theme to the history book or the budget shelves comes a game from Martech to make you think again. Based on the well-known *2000 AD* comic books, and officially licensed, Nemesis the Warlock must battle his way through screens full of vicious Terminators to eventually find and destroy Torquemada, the cruel Grand Master of Termight.

It's not strictly platforms and ladders, as what they've done at Martech is combine that with a touch of the *Exploding Fists*, a hint of the *Bombjacks*, and added bullets and the spit of fiery acid from Nemesis himself.

The graphics are slightly blurred, but nothing to moan too much about, and certainly do not detract from the gameplay, which is enhanced by yet another soundtrack from the prolific and talented Rob Hubbard. The first screen contains a fairly simple series of plat-




forms, a host of Terminators wandering round ready to do you mischief, and Nemesis at the bottom with his arsenal of weapons. The dreaded fiery spit can only used once on each screen, by pressing the space bar, so has to be used to maximum effect as it wipes out everything it comes into contact with. A gun is also available, but initially this has no bullets. They have to be found on each screen enabling the gun to be fired till the bullet supply dries up and needs replacing.

Nemesis's basic weapon is his trusty sword, Excessus. He wields this in response to the fire-button, and the joystick controls his own manoeuvres: left, right, duck or jump. Curiously the Commodore version (reviewed here) is joystick only, with the others offering keyboard options.

At the foot of the screen is the necessary info. This includes the number of bullets left in the gun, the number of Terminators needing to be killed before the escape from the current screen, a face of Torquemada which fills in the nearer you get, and, gruesome but brilliantly done, the heart of Nemesis which is slowly squeezed by Torquemada's hand as Nemesis weakens. The graphics of this on the Commodore version have to be seen to be believed.

You hack and shoot at the Terminators, can climb on their bodies when they fall, but have to watch out for various of Torquemada's nasty tricks. Even dead Terminators can sometimes wave ghostly swords at you, and as the evil influence increases, the dead may turn into scythe-carrying Zombies, which are even harder to kill than Terminators but at least they stay dead the second time around.

Each screen presents a different variation on the platforms theme, and there's the complication of having to find and reach the exit even when you've seen off the required number of Terminators. Graphics are excellent. This is easily one of the best of this month's releases.

Mike Gerrard

## Pneumatic Hammers

**£1.99**
**Amstrad and CBM64**
**Publisher: Firebird**

Games are getting weirder all the time. Whatever happened to good old-fashioned *Space Invaders?* You knew where you were with Space Invaders. If it was green, shoot it; if it shot at you, get out of the way. What could be simpler than that?

Nowadays you can't just go round shooting green things, you have to do incredibly complicated things like preventing gold research bases from being destroyed. Where do you begin? I've been playing this game for ages and still haven't the slightest idea what's going on, and that's after reading the instructions three times, including once upside down.

Anyway, you are Red O'Blair, famed troubleshooter. The pneumatic hammers of the title belong to the research base and they can't be switched off because the electrical power lever that controls them has broken. So you have to fix it before the hammers crack the rock of the valley floor through their continued pounding. You need to build a new lever out of gold, which is found in the valley floor either side of the base. To do that you need a detector found on the first floor of the base.

So far so good. Now there are three game options when you start to play, Practice, Blind and Info's Displayed, which sound straightforward though it would be nice to have them explained in the instructions. It would also help if they explained the next set of options, the frequency of hammer strokes and the weight of the switch lever.

Right, now what's all this in the instructions about the furnace heating up and the thermostat turning on, and gold melting at 1063°C, and being cast at 1120°C? And then there's logs to move using the crane on the ground floor . . . right, I've got that bit, I've been moving logs like a demented lumberjack, but I've no idea what good it might have done me.

Then there's the thing that really puzzles me: "The exit to the base is on the ground floor opposite the lift." Fine, so I go to the ground floor, and stand opposite the lift – in fact there are two lifts, one up and one down, so I stand opposite both of them just in case – and can I find an exit? No. And is this the ground floor anyway? Nothing tells you, except that it's the lowest of the various floors. Maybe it's the basement? OK, go up to the next floor – no, nothing doing. Now on the first floor you're meant to find the detectors. But what does a detector look like? Well, there are half a dozen brown round things here, so these must be the detectors, in which case this is the first floor, so down below must be the ground floor, so go and try to find an exit opposite the lift . . . sorry, opposite the lifts. Better go and shift a few logs, at least I can do that.

And what's this: "Movement across the river is made by jumping from piller to pillar." Now that must happen if you can get through the exit. But what's that arrow at the bottom of the screen pointing sometimes left, sometimes right? I've read the instructions endlessly and can't find any mention of it.

Somewhere in this lot there might be a good game struggling to get out, but what's the point if you have to struggle so much to get into it? I would recommend you to buy the game, though. Then if you can figure out what on earth is going on please write and tell me.

## Dogfight 2187

**Spectrum, Commodore, Amstrad**
**Publisher: Starlight Software**

The 2187 in the title refers to the year in which this game takes place and not necessarily to the fact that there have been 2186 other vector graphics shoot-'em-up games before this one. They can't all be winners, and *Dogfight 2187* has both good and bad points to distinguish it from the rest of the field. A potential good point was the promise of sound effects by Tony Crowther, though on the Spectrum version sent for review these were understandably less than spectacular, sounding more like a budgie breaking wind.

Undeterred by this, hero Rhett Dexter must comb the galaxy (sounds quite a hairy job) to find the 100 pieces of a warp field generator to make Alpha Centauri safe for all eternity. For reasons buried somewhere in the page of preamble, the generator has been scattered about the place by a group called the Old Ones, which must be Rik and Neil and the gang with added bus passes.

Not that any of this tosh matters, because what you must do is fly through space blasting everything that's hostile and collecting the jettisoned cargo so you can move from one section of the galaxy to another.

*Dogfight 2187* differs a little in having one or two player modes. In two player mode you can either battle against each other or join forces against the micro. The top section of the screen is split in half, showing the view from each player's ship, and below this is the usual range of instruments and flashing lights which, if you're like me, you'll ignore for a while until forced to read the manual to find out why you keep getting killed or running out of fuel. In my case this was because I was shooting down the rotating squares where you can both refuel and replenish your defence shields.

A neat feature of the control panel is the large centre square which identifies the craft you've got in your sights and gives you something to aim for by pointing out the weak spots in its armour. This has to be more for show than effect though in a game of fast-moving vector graphics when those strange swirling shapes come at you at high speed. Speed is one thing this game does have, the action being fast and only slowing up just occasionally when the screen fills with enemy craft faster than you can blast them. And if the ordinary speed isn't enough then there's a fast-play option as well.

Not quite in the *Elite* or *Starglider* class, and I've a feeling it might not have the staying power of those: still, it's got a good two-player option and offers a reasonable fast blast.

Mike Gerrard




## Jackle and Wide

**Spectrum**
**Publisher: Bulldog Software**

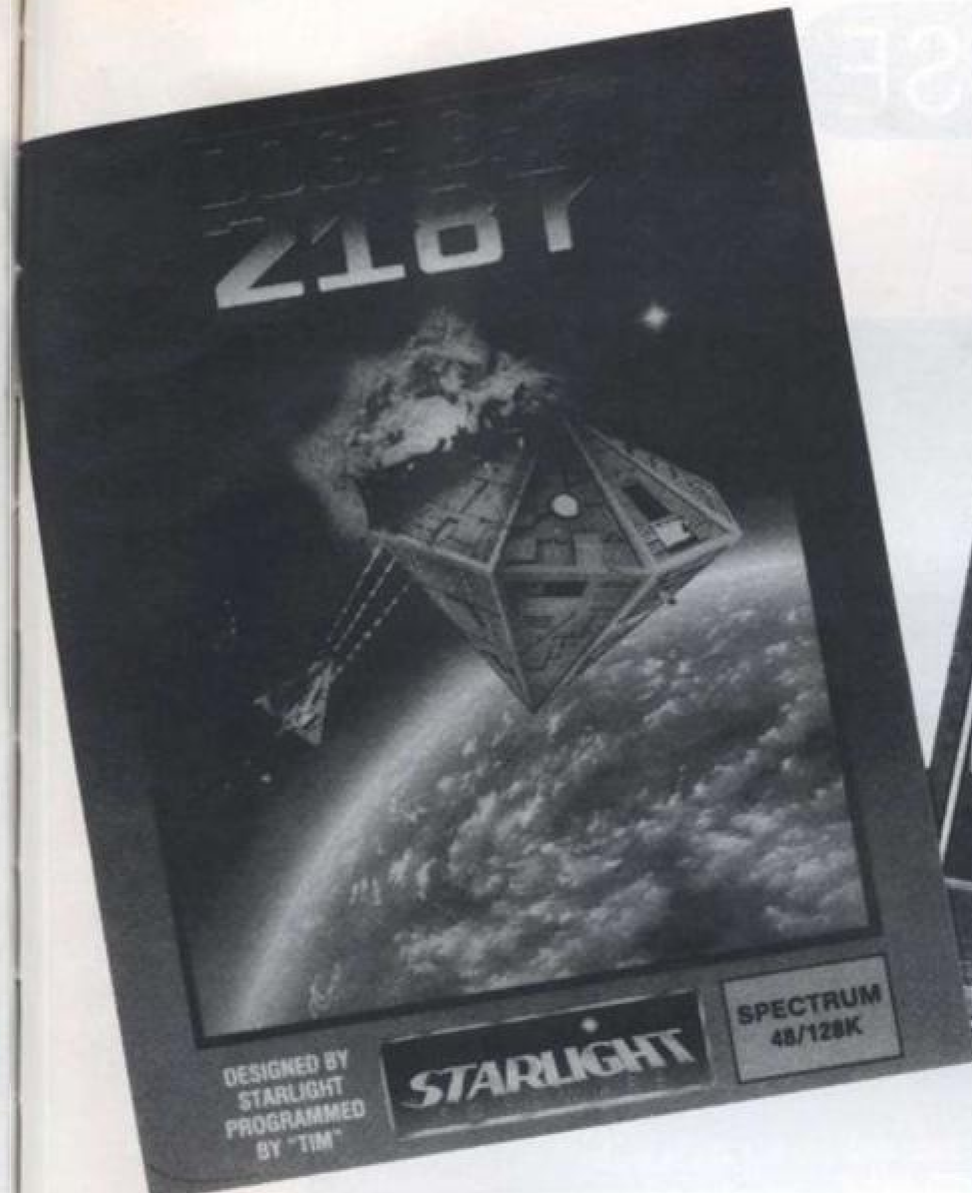
Strange game. Very strange. Remember the story of Jeckyll and Hyde? Well, in as much as you ever need a storyline behind an arcade game like this, *Jackle and Wide* is a variation on that. As kindly Dr Jackle you obtained a formula to make a transformation potion from your enemy, Dr Piqued. Now you've taken the potion and become the evil Mr Wide, though you're not so evil that you actually wnat to continue being Mr Wide. But you don't have the antidote – can you make your way through the underground maze of sewers beneath Hyde Park to find Piqued's secret laboratory and hope that he has the means to turn you back into Jackle?

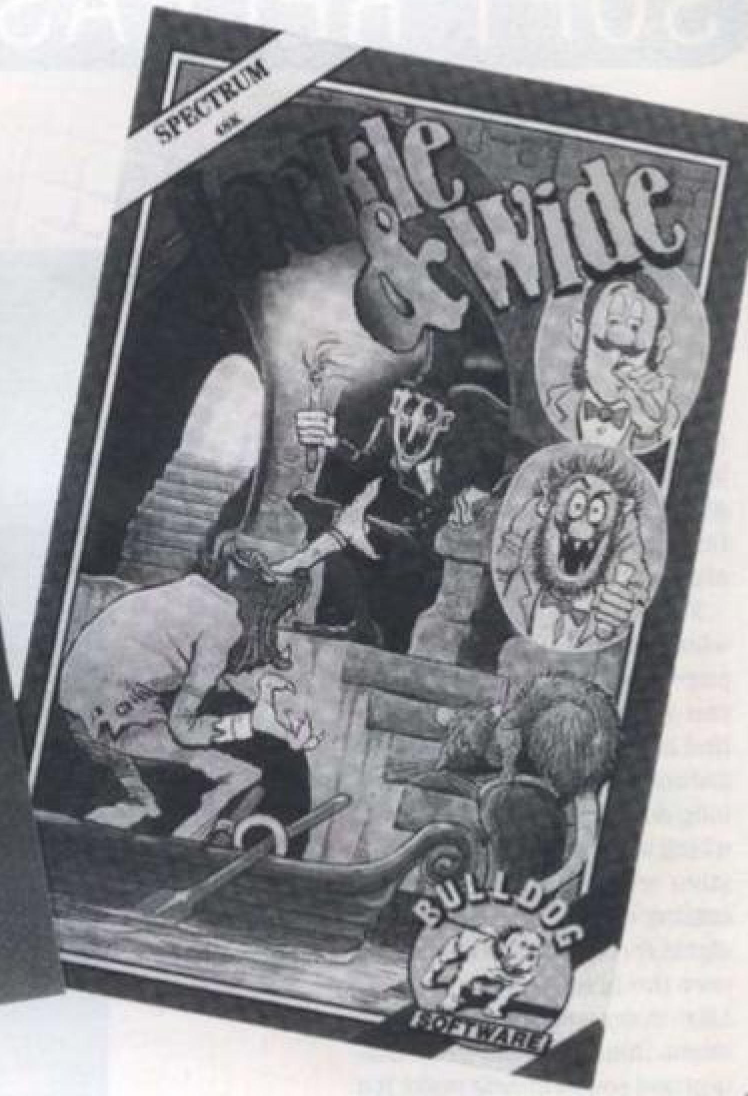
Now play on . . . if you can figure out what is going on. There are two sections: above the ground in Hyde Park and in the Underground Labyrinth of the sewers. In Hyde Park Mr Wide looks rather odd as you get a bird's eye view of him riding a penny-farthing. As well as moving around using keyboard or joystick (Sinclair, Kempston, Protek), there are options to pick up or drop the objects that are lying around, such as axes, gems and stones. Quite what you do with these, and where you might drop them to have any effect, is up to you to figure out. Shades of the MikroGen *Wally* games.

The playing area above ground is one long sequence of vertically scrolling screens, all stacked on top of each other, and though the screens are unusual in design and sometimes weirdly pretty, the movement itself is so slow, with precious little to find or do at first, that I was in danger of becoming bored. There are doors to the underground network on some of the screens, but all are locked except for one at the bottom.

Slowly, some kind of sense began to appear, helped by cryptic clues that were being printed from time to time on the screen. Dropping one object near a boulder removed that obstacle, allowing me to pick up a rusty key, and some oil-filled sponges might have helped make the key usable – I say might because the key disappeared and I was told to go to the quarry, where another object helped cut a path to an underground door, though that door remained locked. Then time, as usual, ran out. A counter ticks down from 9999, and the lack of a pause feature can be a nuisance – why does everyone ring you in the middle of playing a game like this? Including the editor to ask where the software reviews are. They're coming, they're coming . . .

Just got to figure out what's going on underground, first. Here your energy very quickly drains away as you encounter hostile beings in another sequence of screens connected by stairs and doors. The instructions tell you that you can slow down your rate of energy decrease if you know how, as well as regain energy, but they also tell you to beware the rising flood water, the intelligent spike, the green bottle and the room full of time




increase gas.

Strange, very strange, but it's definitely growing on me and as one of the rare arcade-adventures that allows you to save your game and re-load it later, this has to be worth investigating. After all, it might suit you if you're pretty strange yourself.

Mike Gerrard

## Robin Hood

**£2.99**
**Spectrum**
**Publisher: Code Masters**

If budget games didn't exist then you'd have to invent them to take account of games like this that are fun but dated. Not worth a full-price release but definitely worth a place in the collection. Code Masters are putting out some great games as well as some real turkeys, but if you load up *Robin Hood* you certainly won't hear the sound of gobble-gobble, but some pretty nifty music from David Whittaker – though they even give you the option to turn it off, if you want.

Options is something this game's strong on, and that always makes you hopeful, especially after the impressive loading screen. As well as music on/off, you can have sound effects on/off, a choice of three joysticks (Kempston, Protek or Sinclair) and a chance to choose your own keyboard preference. It's the kind of game that plays just as well from the keyboard as it needs only simple up/down/left/right/fire keys.

The cassette cover certainly lays it on thick in describing the game: "Control super Robin Hood in this brilliant arcade game. Blast the onslaughting enemy fighters in your heroic attempt to rescue the lovely Maid Marian." Now hang on, lads, it's good but not quite that good.!

The game's a kind of *Manic Miner* without the manic silliness, but it does have a 'Fire' option that you'll need as you move among the ladders and platforms of the inter-linked screens. There's a touch of *Brian the Bold* about the game, if anyone remembers that funny little number, and *Sorcery* provides bits of the plot with doors dotted about the place and ways of increasing your decreasing health, in this case a scattering of tablets.

The graphics are not the greatest, but are well above average and the hero runs, jumps, ducks and fires in a quite convincing manner. If you press the 'Up' key when on a ladder then you climb, otherwise you jump, and with 'Down' you either descend or duck according to circumstances. The ducking is necessary because some of the screens have villains who are fortunately stationary but will wing arrows your way till the cows come home unless you can duck/stand/fire several times in quick succession and see them off – and you have to get close enough in for the kill or your own arrows don't reach the target.

To try and make it to the high-score table you can gather the inevitable goodies, including a few red hearts (how romantic), while the keys that you find will set lifts in motion to help you get about each screen – and the screens are linked in arcade-adventure fashion.

With spiders leaping up and down, lifts that transport you, mobile platforms that shrink and expand, a bit of leaping around the map-work to do, *Robin Hood* is really a game that's about two years out-of-date – but then I often load up two-year-old games favourites and I could easily see myself loading this little one up again.

Mike Gerrard

## Deathscape

**CBM64/Spectrum/Amstrad CPC**
**Publisher: Starlight Software**

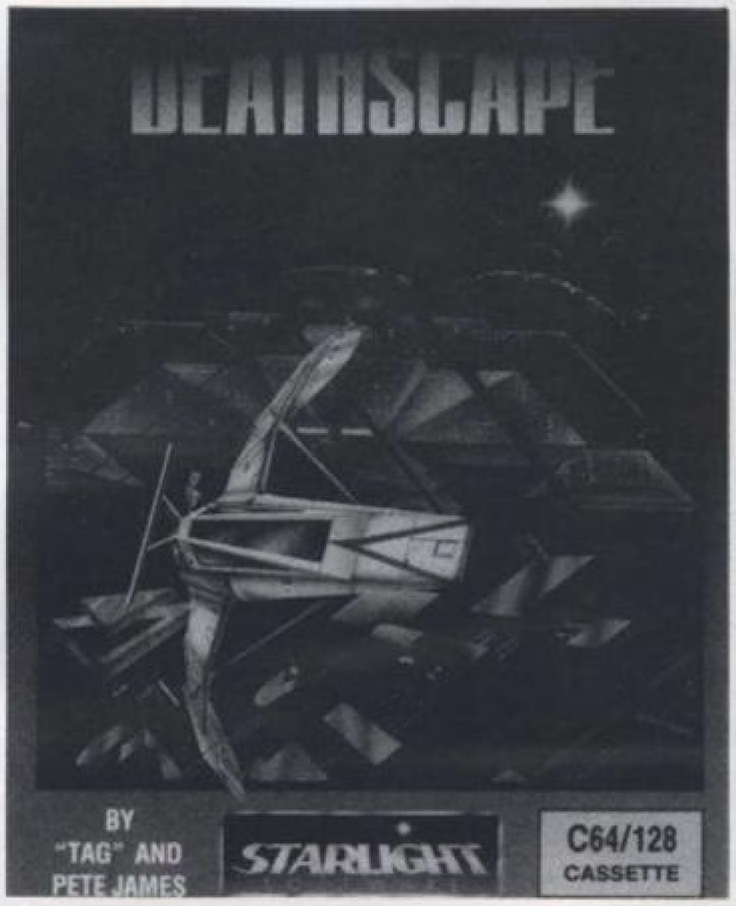
How's your joystick these days? I ask because it's going to have to be pretty robust to stand up to the action of this frantic space shoot-out game from Starlight by a team of people including the renowned Tony Crowther on sound effects, and the end result is a game that I bet Mr Crowther would be pleased to have written himself. Deathscape has all the heart-pounding relentless excitement of some of the best of his little numbers, especially in the Commodore version reviewed here.

Once again the galaxy is at risk. Or is it the universe or the

five

solar system this time? Whatever, the VARGS, who sound like utter rotters to me, have decided to ignore the Mars Peace Summit and it's your job (who else would they call on?) to get down into the futuristic gladitorial pit known as the Deathscape and sort the blighters out.

This is the type of game whiuch would take this whole page to explain, but there are two main aspects, the navigation and the combat. On the initial combat you're thrown headlong down one of those tunnels which will be familiar to gamesters everywhere, with ships coming straight at you and your sights forced to flash around all over the place to see them off. Like many another game, you might think, but the presentation and sound effects make it a cut above anything else you'll see.




At the foot of the screen, where the usual complex control panel lies, you can even see your hand holding the joystick and corresponding almost exactly to the movements you make. Options are chosen by pressing the number keys, and if you press "1" to choose the music or sound effects option, then the hand reaches across and punches the appropriate button on the display panel and the option changes. Mind you, how you choose between music and effects I don't know, as they're both terrific.

One option you might go for is the autofire mode, if you want to give your own stick a break, and this you might well need as the enemy craft coming at you include fighters, bombers, suicide ships and so on, all needing to be dealt with differently. Another option will teleport you back to your control ship, if you want to vary your zapping a little, and ultimately you might be able to teleport to face the VARG Mothership. To do that, though, you first need to collect 10 pieces of code from fortresses you will have to destroy as you travel down the tunnels of the Deathscape arena.

The navigation element is what moves you round the tunnels, a grid of which will be called up by the little hand on-screen if you press the '3' key, and you have to watch the messages, both verbal and visual, which give out information the whole time as to your whereabouts and surroundings.

With the usual problems of shield strength and fuel supply, and some new ones thrown in for good measure, I needed a lie down in a darkened room by the time I'd finished by first session with Deathscape.

Mike Gerrard

## Dungeons, Amethysts, Alchemists 'n' Everythin'

**£1.99**
**Amstrad CPC range**
**Publisher: Atlantis**

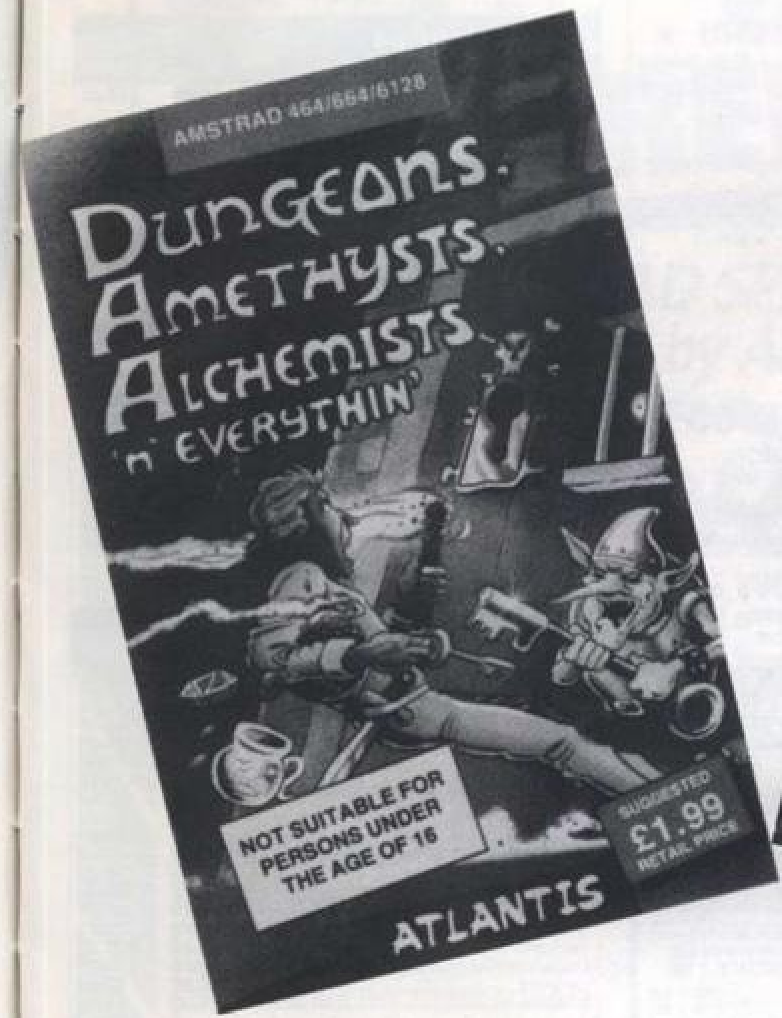
A bit of controversy never hurt anyone, and you might as well try to create it for yourself, as CRL did by getting a '15' certificate slapped on their *Dracula* adventure, and as Atlantis have done by sticking their own label across the cassette cover of this one, saying "NOT SUITABLE FOR PERSONS UNDER THE AGE OF 16." If the level of humour's along the lines of naming your villain Tite-Arz, some people might say it's only suitable for those under the age of 16 . . . or even less.

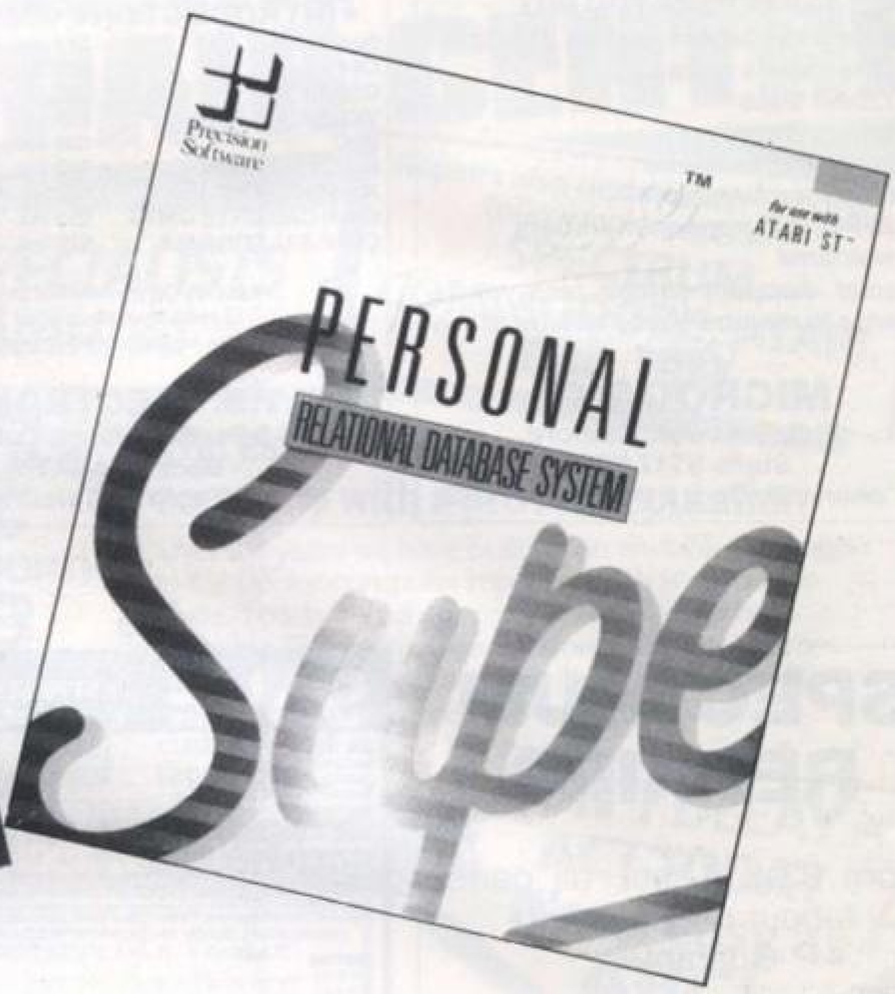
The adventure's written using Incentive's *Graphics Adventure Creator*, and though released by Atlantis it was produced by the Plasma Touch, the indie adventure house that's made a bit of a name for itself in Amstrad circles with decidedly odd games like *The Experience*. Their games are usually interesting, and often frustrating, and certainly not to everyone's taste.

*DAA*, as this one shall be known from here on in, carries another warning on the reverse of the cassette like the Government Health Warning on cigarettes, this one saying that it is "a very humerous (sic) adventure, but it does contain some sexual innuendoes which you may find offensive." I haven't yet found anything too offensive in the way Atlantis means, but the standard of humour (or 'humer'?) is so low as to be offensive to anyone with an IQ above that of the average house brick.

The story is the age-old one of a kingdom fallen on hard times, thanks to the aforementioned evil Dark Lord, so can you find the powerful Amethyst, the mystic stone that was stolen from the Alchemist's Tower? Well, being a mighty warrior and an all-round good egg (it says here), you'll give it a go. Unfortunately you get caught by the Goblins, which is not only painful but also embarrassing, as the adventure hasn't even begun yet. You're promptly thrown into a cell, and now the adventure's begun.

It's now you discover your name to be Gayleigh, a gay and proud warrior, and the cell itself smells of unwashed underarms and urine. I'd have thought the phrase should be unwashed armpits, but no matter, you get the gist of it. There's some revolting green slime coming down the wall, so you EXAMINE SLIME and get the




appropriate response, then you EXAMINE WALL . . . and get the same response. you also notice that the text is badly laid out, with single exclamation marks (the text is big on exclamation marks) spilling over to a line of their own, among other things.

The descriptions don't give the exits from each location, so there's a lot of to-ing and fro-ing as you wander the passages and rooms round about. There are a few decent jokes in there, and I liked the room whose illustration is a terrible example of how wonderful the graphics editor of GAC is. The death routine's amusing too, but spoiled by an unforgivable spelling mistake in the name of a Level 9 adventure, referred to as The Price of Magike.

Save your £1.99 towards the next Level 9 game, Knight Orc, which promises to be something special. This one certainly isn't.

## Superbase Personal Relational Database System

**Atari ST, Amstrad PC, Amiga £99.95**

Databases have always been difficult. Some are so large and intimidating that it is quicker and less wearing on the nervous system to extract a simple telephone number from directory enquiries than to venture into the uncharted depths inside your package. Some are so user-hostile that it would be easier to persuade British Telecom to install a phone for you and then ring directory enquiries.

Other databases are happy to yield their contents but are so feeble that even upending the monitor and shaking it produces only ten telephone numbers which you could remember anyway. In either case the problem has been that with this particular application power and accessibility have never met in the one affordable piece of software. Until, that is, the advent of Precision Software's Superbase Personal, which, the box proudly declares, is a relational database system. This does not mean that its prime use is to remember your grannies address, birthday and favourite bath salts, but that as well as all these things it can check up simultaneously on your bank balance if you have stored that in one of the finance sections and remind you what the wretched bath salts look like (if you've added a pack shot to the picture library).

Superbase Personal does not restrict itself to filing massive amounts of information – there is no limit to the size of each entry or the number of fields involved. What makes it different is the ease with which this information can be accessed, altered, manipulated, related to other files and made sense of. The space allotted to each file could be a problem as window and text can occasionally stop coinciding, although once mastered, this mouse-generated manoeuvrability might be a plus point especially in the graphics section. To let the user read through lists of entries, control icons are placed at the bottom of the screen. There is no danger of, for example, fast forwarding anything but a list of files as both these controls and menu items switch themselves into a 'ghost' mode and become unavailable when their use would be inappropriate.

The menus are all simple to understand even for those not familiar with the Gem style system and at every stage there is the option to cancel a command, very useful for the few times you are likely to overreach yourself or fail to get to grips with the manual.

The manual is solid and well indexed but like any attempt to describe the simple ends up being slower and more confusing than the actual process. Your three months' telephone support is more likely to be needed to understand the manual rather than the program, though as a reference guide to specific difficulties it should come into its own.

This product is aimed at those who need businesslike software and unless you need to store and sift lots of information it might be more database than you actually need. But if you do need a database that is actually useful this is undoubtedly the one.

Carol Atack

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# You are invited to join the Murder Club, but be careful you could end up. KILLED UNTIL DEAD




"YES, IT WAS A DARK AND STORMY NIGHT... A PERFECT NIGHT FOR MURDER"

I, Hercule Holmes, had gotten used to nights like this. As the world's greatest detective and resident house dick of the infamous Gargoyle Hotel, I've made a living looking for the subtle signs of impending foul play. Gloomy weather, blood curdling screams, gunshots, empty bottles of poison, bodies tumbling down stairs, a mutilated corpse or even an axewielding maniac might slip right by the untrained private eye. But to a master sleuth like myself, these telltale signs can only mean one thing. The Murder Club has just checked in!"

"The Murder Club?" Yes, the Murder Club! Five of the world's bestselling murder mystery writers who transpose their fictional pulp plots into real-life murder and mayhem. Once again they have convened for their annual reunion here at the Gargoyle Hotel. And once again the dark, damp halls will echo with the cries of 'Don't shoot!', 'I've been poisoned!', 'Who stabbed me?', 'I've been shortsheeted!', and 'Who took all the hot water?' Yes, with the Murder Club as tonight's guests, more than the plumbing will be amiss!"

"Each member of The Murder Club will try to bump off the others and lay down claim to the crown of 'World's Greatest Murderer'. But it will not be a piece of quiche! For these brilliant criminal minds must match wits with moi, Hercule Holmes! I have only until midnight to discover the would-be murderer, victim, murder weapon and the scene of the crime."

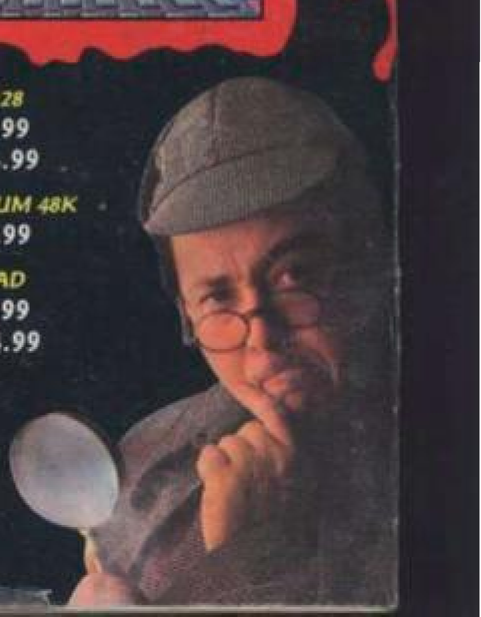
"At my disposal will be every imaginable piece of high tech crimestopping gadgetry known to sleuthdom: minicameras, hidden bugs, even wire taps. Yet all these modern electronic wonders cannot replace my inherent ability as a born detective... instincts passed from generation to generation in the Holmes family.

Therefore, I accept the challenge. I will uphold the family honour! Before this night is over I will prevent a murder or be murdered trying! If I fail, one of the illustrious members of the Murder Club will surely be killed... yes Killed Until Dead!"

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